8-29-2022

Socioeconomic status, health, and health behaviours of school-aged adolescents : the psychosocial mechanisms of social capital

Evelyn Aboagye ADDAE

Terms of Use

SOCIOECONOMIC STATUS, HEALTH, AND HEALTH BEHAVIOURS OF SCHOOL-AGED ADOLESCENTS: THE PSYCHOSOCIAL MECHANISMS OF SOCIAL CAPITAL

ADDAE EVELYN ABOAGYE

PHD

LINGNAN UNIVERSITY

2022

SOCIOECONOMIC STATUS, HEALTH, AND HEALTH BEHAVIOURS OF SCHOOL-AGED ADOLESCENTS: THE PSYCHOSOCIAL MECHANISM OF SOCIAL CAPITAL

by

ADDAE Evelyn Aboagye

A thesis
submitted in partial fulfillment
of the requirements for the Degree of
Doctor of Philosophy in Sociology and Social Policy

Lingnan University

2022

ABSTRACT

Socioeconomic Status, Health, and Health Behaviours of School-aged Adolescents: The Psychosocial Mechanisms of Social Capital

by

ADDAE Evelyn Aboagye

Doctor of Philosophy

Psychosocial social capital is advocated as a *protective health asset* and a *non-monetary safety net* that protect adolescents' developmental outcomes against effects of socioeconomic inequalities. This study utilised advanced mixed research methods, and *socioecological* and *health asset* approaches to offer evidence on social capital's psychosocial mechanisms and pathways through which socioeconomic status (SES) affects adolescents' health and health behaviours. This is to offer appropriate policy and practice proposals in Ghana. The quantitative and qualitative studies respectively employed a multi-stage stratified cross-sectional survey data of 2,068 and 54 in-school Ghanaian adolescents (13-18yrs) in focus group discussions. Various univariate and bivariate (cross-tabulation-Chi square, Spearman correlation) statistical analyses, bootstrapping mediation, and moderation analysis using structural equation modelling techniques in SPSS-AMOS (controlling for sociodemographic factors (SDFs)), and qualitative content analysis were completed. Bivariate analyses revealed significant associations among SES, social capital, health, and health behaviour outcomes as well as variations in health and health behaviours by SES, social capital, and SDFs. From regression analyses in mediation models, SES positively predicted satisfaction with self-confidence (SSC) and physical activity (PA) but not self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS), and multiple health risks behaviour (MHRB) after accounting for social capital's effects. Again, the measures of social capital comprising family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), community sense of belonging (CSB), school sense of belonging (SSB), school autonomy support (SAS), and peer-based social network (PSN) showed significant varying effects on SRH, MHPS, SSC, MHRB, and PA. Moreover, social capital (FSB, FAS, FC, PSS-Fa, CSB, and PeerR) mediated the relationship between the adolescents' SES and SRH, SSC, MHPS, PA, and MHRB. Furthermore, a moderation model revealed social capital (CSB, PSS-Fa) as a moderator in the relationship between SES and SRH, PA, and MHRB. The qualitative findings also confirmed that, indeed, psychosocial social capital offers protective mechanisms against SES' effects on adolescents' health and health behaviours. Explicitly, parent-child relationship, FSB, PSS-Fa, FAS, FC, peer relationships, peer social support, CSB, community autonomy support and community social support were reported as protective health assets for promoting especially poor adolescents' health outcomes (happiness, perceived meaning in life) and health behaviours. Generally, findings from both methods assert that SES and psychosocial social capital are vital social determinants of school-aged adolescents' health and health behaviours. Psychosocial social capital is revealed to empower adolescents to build resilience against SES' effects. The family, peers, and community contexts offer the most crucial protective health assets

and non-monetary safety nets against SES' effects on Ghanaian adolescents' health status, mental health, and health-promoting and risk behaviours. This study offers original research and theoretical contributions for the application of social capital as a component/complement in policies targeting young people's socioeconomic conditions, health, and health behaviours such as Ghana's Child and Family Welfare Policy and National Health Policy. Social well-being and empowerment at the family, school, peers, and community level should be acknowledged in integrative and inclusive social approaches addressing multidimensional poverty, health, and health behaviours of Ghanaian young people.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

SIGNED

(ADDAE Evelyn Aboagye)
Date: 23/09/2022

CERTIFICATE OF APPROVAL OF THESIS

SOCIOECONOMIC STATUS, HEALTH, AND HEALTH BEHAVIOURS OF SCHOOL-AGED ADOLESCENTS: THEPSYCHOSOCIAL MECHANISMS OF SOCIAL CAPITAL

by

ADDAE Evelyn Aboagye

Doctor of Philosophy

Panel of Examiners :

SIGNED

(Prof. LEE Lap Fai Alan) (Chairman)

SIGNED

(Prof. NYGREN Jens) (External Member)

SIGNED

(Prof. KÜHNER Stefan) (Internal Member)

SIGNED

(Prof. ARAKI Satoshi) (Internal Member)

Chief Supervisor :

Prof. KÜHNER Stefan

Co-supervisor :

Prof. ARAT Gizem

Approved for the Senate :

SIGNED

(Prof. MOK Ka Ho Joshua)
Chairman, Postgraduate Studies Committee

29 AUG 2022

Date

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AFMC	Association of Faculties of Medicine in Canada
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CFWP	Child and Family Welfare Policy
CSB	Community Sense of Belonging
CSDH	Commission on the Social Determinants of Health
COVID-19	Coronavirus Disease 2019
CRC-Ghana	Convention on the Right of the Child-Ghana
EFA	Exploratory Factor Analysis
DV	Dependent Variable
IV	Independent Variable
FAC	Family Autonomy and Control
FAS	Family Autonomy Support
FC	Family Control
FSB	Family Sense of Belonging
GCPH	Glasgow Centre for Population Health
GFI	Goodness-of-Fit Index
GLSS	Ghana Living Standard Survey
GNCC	Ghana National Commission on Children
GSHS	Global School health Survey
GSS	Ghana Statistical Service
HBSC	Health Behaviour in School-aged Children
HDI	Human Development Index
ISCI	International Society of Child Indicators
JACC	Japan Collaborative Cohort
JHS	Junior High School
LMIC	Low-and-Middle-Income country
LMICs	Low-and-Middle-Income countries
LS	Life Satisfaction
MGCSP-Ghana	Ministry of Gender, Children and Social Protection-Ghana
MHPS	Multiple Health Complaints/Psychosomatic Symptoms

MHRB	Multiple Health Risk Behaviours
MMDAs	Municipal, Metropolitan and District Assemblies
MOH	Ministry of Health
MPhil	Master of Philosophy
MVPA	Moderate-to-Vigorous Physical Activity
NDCP	National Development Planning Commission
NGOs	Non- Governmental Organisations
NHP	Nation's Health Policy
NICE	National Institute for Health and Clinical Excellence
OECD	The Organisation for Economic Co-operation and Development
PA	Physical Activity
PSN	Peer-based Social Network
PSU	Primary Sampling Unit
PhD	Doctor of Philosophy
PPCT	Process–Person–Context–Time Model
PSS-Fa	Perceived Social Support from Family
PISA	Programme for International Student Assessment
QUAN	Quantitative
QUAL	Qualitative
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling
SC	Social Capital
SDCs	Sociodemographic Characteristics
SDGs	Sustainable Development Goals
SES	Socioeconomic status
SHS	Senior High School
SSC	Satisfaction with Self-Confidence
SIFG	Social Inequalities Focus Group
SRH	Self-rated Health
SRMR	Standardised Root Mean Residual
SWB	Subjective Well-being
SoB	Sense of Belonging

SSB	School Sense of Belonging
UK	United Kingdom
UN	United Nations
USA	United States of America
UNFPA	United Nations Population Fund
UNICEF	The United Nations International Children's Emergency Fund
WHO	World Health Organisation
WVS	World Value Survey

ACKNOWLEDGEMENT

I offer much gratitude to the Almighty God for His everlasting provisions and blessings on my life. I am also grateful and thank my family, especially, my parents for supporting all my academic and career decisions and offering me diverse support during my Doctor of Philosophy study-PhD.

Again, my earnest gratitude goes to my PhD supervisors, Prof Stefan Kühner, Prof Lynn Tang, and Prof Gizem Arat for their invaluable guidance and support that led to the successful completion of my PhD study. I am much grateful to my Chief Supervisor- Prof Stefan Kühner whose five years of supervision of both my MPhil and PhD studies has enabled me to evolve rapidly from a novice researcher to a researcher that myself and others are proud of. He is a supervisor that I was blessed to work with, and I am very proud of.

I am much grateful to Professor Antony Morgan, Dean and Professor of Public Health at Glasgow Caledonian University London-UK for his enormous guidance and contributions toward the successful completion of this thesis.

I, moreover, thank Lingnan University for sponsoring my studies and providing for my welfare during my study period. My sincere appreciation to all other staff members of the Department of Sociology and Social Policy who in one way or the other contributed to my academic progress at Lingnan University, especially, Prof. DAVID Roman.

Special thanks also to David Wuollah-Dire, my research assistant during the data collection, and to all the participating schools and adolescents for their enormous support in the research data collection.

Lastly, my sincere appreciation to all my friends, colleagues and all those who believe in me, support me, and inspire me to accomplish my ambitions.

SOCIOECONOMIC STATUS, HEALTH, AND HEALTH BEHAVIOURS OF SCHOOL-AGED ADOLESCENTS: THE PSYCHOSOCIAL MECHANISMS OF SOCIAL CAPITAL

CHAPTER ONE

INTRODUCTION

1.1 Background

> *Imagine a world where all adolescents irrespective of their socioeconomic status can equally develop and live healthily; because they can equally adopt healthy behaviours over health risk behaviours and attain positive health. Achieving this will contribute greatly to attaining the Sustainable Development Goals! but, is this possible in our current societies where an adolescent's family's power, income, and wealth often determine his/her health and health behaviours? What if there is a way to help adolescents overcome socioeconomic inequalities/barriers to their health, and offer adolescents equal opportunities to reduce the social gradient in their health and health behaviours? This is the answer the present thesis seeks to offer, by proposing psychosocial social capital as a potential protective health asset and a non-monetary safety net to social and public health policies and interventions to aid promote inclusive societies, where this vulnerable adolescence phase becomes a phase of positive health and healthy behaviour.*

Safeguarding positive/healthy lives and advancing well-being at all ages, as well as reducing inequality within countries are critical steps toward achieving the Global Sustainable Development Goals (SDGs), Goal 3, and Goal 10 respectively (UN, 2022). Nevertheless, socioeconomic inequalities in our global societies present significant

barriers to attaining these SDGs, especially regarding socioeconomic inequalities in the psychosocial (psychological and social) development, and health and health behaviours of young people. Addressing socioeconomic inequalities in the psychosocial development and health and health behaviours of young people especially during adolescence has often been recognised as a critical developmental agenda globally due to the significant long-term impacts it poses on individuals, societies, and global development (WHO, 2008; Hudson, & Kühner, 2016; Inchley et al., 2016; UNICEF, 2018). Exposure to socioeconomic and psychosocial risk factors during adolescence has been associated with inequalities in health and health behaviours not only in childhood but also in later life. This is because the outcomes of young people especially their health and health behaviours are closely linked with infant and child mortality, maternal morbidity and mortality, future adult development as well as long-term economic development (WHO, 2008; Hudson, & Kühner, 2016). However, a major challenge for policymakers and practitioners to address socioeconomic inequalities in young people's health and health behaviours, is to determine how best to influence not only socioeconomic factors but also the wide-ranging psychosocial mechanisms through which socioeconomic inequalities in health and health behaviours are established, especially, during adolescence (Inchley et al., 2016).

Evidence from the World Health Organisation (WHO) imply that one of the psychosocial mechanisms by which socioeconomic inequalities in populations' health is established is through social capital, positing psychosocial effects of SES on populations' health outcomes (WHO, 2008). Social capital, a social resource and a *health asset* obtained from social connectedness/relationships established in social contexts such as the family, school, peers, and communities have been reported to

provide some psychosocial mechanisms or processes by which socioeconomic inequalities are established during the adolescence phase. One way to address socioeconomic inequalities in young people's health and health behaviours hence is to influence social capital's psychosocial mechanisms by which SES affects adolescents' health and health behaviour outcomes. This, therefore, necessitates the recognition of *social approaches* as opposed to purely *biomedical approaches* to health promotion and interventions, as well as research regarding adolescents' health and health behaviours. Inclusion of *social approaches* in adolescents' health promotions implies acknowledging the roles of socio-environmental (contextual) factors including SES and psychosocial determinants involving *psychosocial social capital* in health promotion policies and interventions for adolescents. Indeed, social approaches involving inclusion of social connectedness (social capital) to the organisation and delivery of public health have been found to have considerable potential for promoting positive health and health behaviours, particularly for those living in socially deprived circumstances (Morgan & Swan, 2004; GCPH, 2013). It has increasingly been documented in recent years as in the case of empowering young people, promoting young people's civic engagement, and promoting social health initiatives and social prescription (South et al., 2008, GCPH, 2013; Morgan et al., 2012; Viner et al., 2012).

Although adolescence is generally thought of as a progressive time of life, several essential public health and social behaviours and problems either begin or escalate during this period. Some of these problems have been related to social determinants and lifestyles functioning and interacting in complex environments (family, schools, peers, and communities) that advance these behaviours (Currie et al., 2000; Morgan, 2011). Undeniably, irrespective of the regional context, the health and health behaviours of adolescents in recent years have been associated with socio-

environmental factors such as poverty, socioeconomic status (SES), and psychosocial factors such as psychosocial social capital arising from their family, schools, peers, and communities (Morgan, 2010; Inchley et al., 2016). Family, schools, peers, and communities' social capital have since gained attention as a potential protective *health asset* necessary for health promotion of young people among public health researchers (Morgan & Haglund, 2009; Morgan, 2010:2011; McPherson et al., 2013; McPherson et al., 2014; Ehsan et al., 2019) especially amidst socioeconomic inequalities (Morgan, 2010; Addae, 2020a: b; Kühner et al., 2021). Both SES and social capital are hence critical social determinants of young people's health and health behaviours (WHO, 2008). Various arrays of socioeconomic conditions and psychosocial social capital have been revealed to influence the health and health behaviours of young people directly and indirectly (Morgan, 2010; Morgan & Haglund, 2009; McPherson et al., 2013; Uphoff et al., 2013; Eshan et al., 2019). Reviews by Hanson and Chen (2007), and Chen and Matthews (2002), for instance, reported negative effects of lower SES on adolescent eating patterns, physical activity, and smoking. Poortinga (2006) also found that social capital and health risk behaviours (smoking, alcohol use, and fruit/vegetable intake) had independent effects on self-rated health. Pickett et al (2006) on the other hand found moderating mechanisms showing that supportive home and school environments moderated the effect of multiple risk behaviours on youth injury while controlling for SES.

Accordingly, the roles of various psychosocial mechanisms of social capital in the relationship between different measures of young people's SES and health and health behaviours have highly received attention in, notably, high-income countries (Poortinga, 2006, Boyce et al., 2008; Morgan, 2010:2011; McPherson et al., 2013). Research evidence suggests that the psychosocial dimensions of social capital can

offset and buffer the effect of SES on health and health behaviour outcomes (WHO, 2008; Morgan, 2010:2011; Uphoff et al., 2013; Buijs et al., 2016; Ge, 2018) and that indicators of social capital are protective against mortality (Ehsan et al., 2019).

For instance, it is recognised that in high-income countries, each step down the social ladder is linked to poorer health outcomes (Marmot et al., 1991). This *social gradient* proposes that social inequalities in health and health behaviours do not only reflect material drawbacks associated with SES but include psychosocial pathways associated with social positions (Wilkinson & Marmot, 2003; Halpern, 2005; Uphoff et al., 2013). The psychosocial pathways operate through mechanisms such as inadequate accessibility and use of social capital resources and the stress emerging from status comparisons (Uphoff et al., 2013). At the individual level, social capital can offset the negative effects of stress or enhance young people's ability to cope with stress by increasing emotional or financial support (Wilkinson & Marmot, 2003; Uphoff et al., 2013). A healthier way of coping with stress may imply young people are less likely to engage in risky behaviours such as smoking, drug use, and consuming alcohol. They may also practice positive health behaviours such as exercising and healthy dieting as coping mechanisms (Halpern, 2005; Uphoff et al., 2013). Researchers, can thus, influence and utilise social capital's psychosocial mechanisms to address socioeconomic inequalities and social gradient in health and health behaviours among the adolescent populace within countries.

Alas, the psychosocial effect of SES and the psychosocial mechanisms of social capital in the relationships between SES and adolescents' health and health behaviours have not been fully acknowledged among practitioners and researchers in low-and middle-income countries (LMICs), especially in Ghana. Ghana as a collectivist society has an embedded culture that offers a *social fabric* from which

social capital can be amassed by members of the society. This *social fabric* (relationships and connections between humans that connect them with communities) can potentially make social capital acquisition readily available for young people if social capital building within their social contexts is aptly researched, promoted, and utilised by practitioners as either key components or complements in social protection policies and public health interventions targeting health promotion of adolescents. Taking advantage of the nation's available social resources (social capital) and utilising them as protective *health assets* can certainly provide a crucial initiative for social and public health practitioners in Ghana to help reduce social gradients in young people's health and health behaviours. This will consequently aid in promoting the achievement of the SDG 3 and 10 as well as promoting WHO's demand for researchers to create awareness and address the social determinants of population's health (WHO, 2008; UN, 2022a:2022b).

This thesis' proposition, therefore, is for researchers specifically in Ghana to offer significant scientific and empirical evidence to policymakers and stakeholders on the need for inclusion of *social approaches* to addressing young people's health and health behaviours in Ghana. This can be achieved by promoting the potential for the Ghanaian *social fabric* to serve as a vital source of psychosocial social capital (protective health assets) for providing an alternative *non-monetary safety net* for addressing socioeconomic inequalities among young people in Ghana. Thus, researchers must examine and identify the extent of inequalities in Ghanaian young people's socioeconomic status, psychosocial social capital, health, and health behaviours, and highlight an advanced understanding of how these factors interact to establish inequalities among this vulnerable age group. This is because knowledge of the mechanisms involved in the development and maintenance of inequalities in health

and health behaviours can apprise changes that promote development for young people in Ghana. This will again offer holistic understanding of the patterns of health and health behaviours established during adolescence. Thus, advocating for the move beyond addressing only economic patterns in health and health behaviours but also considering psychosocial injustices in health and health behaviours (Currie et al., 2012; Inchley et al., 2016). Consequently, evidence-based public health and social policy for young people's health promotion in Ghana would be encouraged. Lastly, promoting *social approaches* to addressing the social gradient in health can stimulate targeted strategies to break negative social cycles in childhood and adolescence and offer every child the opportunity to live healthy lives and adopt health-promoting behaviours over risk behaviours irrespective of persisting life stressors.

1.2 The Problem and Justification for the Study

Young people, classified as people from 10-24years form about one-quarter of the world's population. The achievements and contributions of this age cohort can, therefore, significantly shape the world. Yet, many young people still grapple with inequalities in their lives. For instance, in LMICs, numerous barriers including poverty, social deprivation, SES, health risk behaviours, and health inequalities often prevent many young people from reaching their full development potential (McCracken & Phillips, 2017; Viner, 2017).

Evidence amassed over the last few decades illustrates that disadvantaged social circumstances are related to increased health risks (Mackenbach & Bakker, 2002; WHO, 2008; Acheson, 2015; Inchley et al., 2016). As a result, the social determinants of inequalities in young people's health and health behaviours are now embedded in contemporary international policy development. The WHO Commission on Social Determinants of Health asserts that the substantial number of inequalities in

health within and between countries are avoidable (WHO, 2008), however, they are persistently experienced by young people. Generally, most young people are also thought to be healthy. However, per WHO, an estimated 2.6 million young people aged 10 to 24 years die each year and a much greater number of young people suffer from risk behaviours that hinder their ability to grow and develop to their full potential (WHO, 2011a). Almost two-thirds of premature deaths and one-third of the total disease problem in adults such as tobacco intake, physical inactivity, risky sexual behaviours, etc. is related to circumstances or behaviours introduced when they were young (WHO, 2011a, UNFPA, 2017). The behavioural patterns formed during this developmental phase consequently determine one's current health and the risk of developing some chronic diseases in later years (UNFPA, 2017). It is, therefore, crucial to understand the social problems of this population, processes, and mechanisms that affect their health and health behaviours, and identify, develop, and implement appropriate policies and programmes that safeguards young people's health and health behaviours. Investing in and advancing the health and health behaviours of young people is, therefore, a prerequisite for individual, national and global development. Yet, once more, young people are often neglected as a population group in health statistics, being either aggregated with younger children or with young adults (Inchley et al., 2016). This has caused less research work specifically designed for young people, particularly, the adolescent cohort and consequently leading to fewer evidence-based policies designed to target adolescents' health and health behaviours in most LMICs including Ghana (Viner, 2017).

The conditions in which people are born, live, grow, and work are thought to greatly influence inequalities in health and health behaviours throughout their life courses (WHO, 2008). The role of SES and psychosocial social capital in the current

and future development of adolescents is hence indubitable (Lau & Bradshaw, 2016; Inchley et al, 2016; UNICEF, 2017). For example, reports suggest that societies with more social equality attain more social capital and have improved health outcomes, in addition to a lower prevalence of social troubles comprising risk behaviours (e.g., drug abuse, school dropouts, and teenage pregnancies) (Wilkinson & Pickett, 2010; Uphoff et al., 2013). Regrettably, there exists poverty among many adolescents in Ghana which affects their social capital stock accumulation. Poverty has also been noted as a major cause of the fragmentation of the nation's *social fabric* and deprivation of adolescents of a good standard of living; consequently, creating health inequalities and risky health behaviours among most adolescents in Ghana (UNICEF, 2014:2015). Promisingly, lessons and evidence from most high-income countries suggest that social capital could be a critical protective factor of Ghanaian adolescents' health and health behaviours; and social capital could offer crucial mechanisms by which poverty and its related socioeconomic inequalities established among adolescents in Ghana are reduced or prevented. Researchers have for instance revealed that neighbourhoods that generate high levels of social capital produce better mental health, more health-promoting behaviours, less risk-taking behaviours, improved overall perceived health (WHO, 2015; Boyce et al., 2008), and more prospects of physical activity (Rasmussen et al., 2005). Similarly, the roles of social context such as family, peers, and schools as protective factors for health and health behaviours of young people have been illustrated in international policy developments in most high-income countries (Morgan 20120:2011; Morgan & Haglund, 2009; Currie et al., 2012; McPherson et al., 2014; Inchley et al., 2016). It is therefore right to propose that psychosocial social capital can potentially offer protective mechanisms for safeguarding Ghanaian adolescents' developments by mediating and/or moderating SES's effects on their

health and health behaviours. Thus, social capital as a mediator can explain the relationship between SES and adolescents' health and health behaviours, while as a moderator, can influence the effect size and direction of the relationship between SES and adolescents' health and health behaviours (Buijs et al., 2016).

Despite that the psychosocial mechanism of social capital is highly acknowledged in the literature, generally, there exist unclear underlying psychosocial mechanisms of social capital in a child's health and health behaviours amidst socioeconomic positions due to inconclusive findings and limited research (Buijs et al., 2016). Thus, while some authors claim a mediating mechanism, others claim a moderating mechanism of social capital against the effects of SES (Buijs et al., 2016). Notwithstanding the inconclusive findings on the psychosocial mechanisms of social capital, there exist mostly quantitative evidence from mostly high-income countries to show that social capital can help reduce the social gradient in health and health behaviours, and that social capital can function as a mediator and moderator in the relationship between SES and adolescents' health and health behaviours in some countries (Wilkinson & Pickett, 2010; Uphoff et al., 2013). The debate as to what exactly is the psychosocial mechanism of social capital in the health and health behaviours of adolescents is, however, peculiarly scarce among social and public health researchers in LMICs, especially from the Ghanaian context. Since social capital is highly contextual and culturally bounded, there is a need for country and age-specific research in Ghana to contribute evidence to the debate on whether social capital can indeed function as a protective health asset for the health and health behaviours of Ghanaian adolescents as found in other countries.

Ghana is a collectivist society whose collectivist culture retains some positive aspects, that can be utilised to promote health and health behaviours of adolescents if

suitable approaches and initiatives are upheld. Ghana's exceedingly entrenched collectivist societies and culture provide a *social fabric* where nuclear and extended family members share reciprocal and important relationships comprising collaboration, childcare, and socioemotional and financial support (Hansen, 2005; UNICEF, 2015). The traditional extended family system holds an in-built *safety net*, which to certain degrees provides for the well-being of especially poor children/adolescents belonging to the family. The system encourages family members to provide for the nurturing of their poor relatives' children. Ghana as a collectivist society also values the role of *community* in nurturing and promoting the well-being of children in their societies (UNICEF, 2015). Thus, the societies' cultural belief that *'it takes a village to raise a child'* infers that the community in which children live also has crucial roles in their proper nurturing and hence must offer them all the psychosocial support they need to develop suitably. Thus, *social fabrics* formed within the immediate social contexts of young people such as the school, peers, and community are other potential sources of psychosocial social capital needed to support positive health and healthy behaviours of adolescents beyond the family context. This characteristic signifies the vital role of societies in providing social networks from which economic resources can be accrued in enhancing the SES of poor adolescents as well as offering non-monetary psychosocial resources that equip poor adolescents with the capability to build resilience and overcome difficult life situations that would have otherwise resulted in poor health and health risk behaviours (Addae, 2020a; Addae & Kühner, 2022). Such practices of the Ghanaian society function and supports the notion of community social capital as a protective health asset/resource for especially young people living in deprived conditions (Morgan, 2010).

Sadly, recent studies imply that mounting poverty and economic hurdles have sapped the *safety nets* offered by especially extended families in Ghana. These studies suggest that the fragmentation of the Ghanaian *social fabric*, flagging of the family system and economic burdens have compelled parents, extended family members, and carers to offer less devotion to children's welfare (WHO, 2017; UNICEF, 2014:15). This has relayed lasting negative effects on the health and health behaviours of adolescents through their experiences of risky behaviours such as school dropout, parental neglect, domestic abuse, sexual exploitation, child labour, child marriage, teenage pregnancies, and substance abuse (UNICEF, 2014:15). A recent committee, the Consultative Committee to Combat Drug Menace in Schools set up by the Government of Ghana in 2019 to investigate the prevalence of substance use among in-school adolescents in the nation's quest to combat the drug menace in schools found a high prevalence of health risk behaviours including substance use among in-school adolescents in Ghana (Ministry of the interior, 2021). The pressing question for concerned policymakers, intervention providers, and researchers in the country is thus, *1. how best can the welfare of especially school-aged children and adolescents in Ghana be safeguarded? and 2. how best can the nation protect in-school adolescents from health risk behaviours to ensure that in-school adolescents adopt healthy behaviours?* To address these questions, researchers can learn lessons from other countries to provide adequate evidence-based social approaches that can be employed by policymakers to promote social capital building from the Ghanaian *social fabric* and provide an alternative *non-monetary safety net* for the health promotion of in-school adolescents in Ghana. Research endeavours can also provide school authorities and other education stakeholders with evidence-based policy proposals that can be incorporated into school/educational health-promotion strategies for students.

As portrayed by existing studies, available social capital embedded in the Ghanaian *social fabric*, especially within the family can, therefore, be promoted and tapped by policymakers in interventions to equip young people especially in-school adolescents with the required assets to combat health risk behaviours. Moreover, when appropriate initiatives are taken by practitioners, young people in Ghana can take advantage of the nation's collectivist culture and its embedded *social fabric* and accumulate psychosocial social capital from communities to build resilience against adverse effects of poor life circumstances. Therefore, an advanced understanding of how adolescents' social environments at especially the individual level act as protective factors can, consequently, support efforts to address inequalities in health and health behaviours among adolescents in Ghana (Morgan, 2010).

Regrettably, most health promotion strategies outlined in Ghana's National Health policy and research work in Ghana are toward biomedical dimensions such as diseases and reproductive health, with less emphasis on *social approaches* that can tap into the available social resources offered by the Ghanaian rich collectivist culture. Consequently, few health policies exist on promoting the psychosocial dimensions of young people's health such as general health status and mental health as there is more focus on physical health and diseases (MOH, 2021). Psychosocial determinants of both health status and mental health of young people, however, also must be considered for a holistic assessment of young people's overall development. *Social approaches* to the health behaviours of young people are also another subject that has received less consideration in health policy and research agendas in Ghana (MOH, 2021). Moreover, studies that have attempted to determine the risk factors of adolescents' health behaviours have not provided adequate evidence on the psychosocial mechanism by which health risk behaviours are established in Ghana, especially, in

the presence of the pressing deteriorating socioeconomic conditions facing many adolescents in Ghana (e.g., Oppong, 2019; Atorkey et al., 2021).

More importantly, the psychosocial mechanism of social capital through which socioeconomic inequalities in adolescents' health and health behaviours are established are specifically under-researched in Ghana. This is likely because, generally, existing quantitative evidence on the effects of social capital and SES on adolescents' health and health behaviours has focused on examining the direct relationships existing among SES, social capital, and health and health behaviours (Morgan & Haglund, 2009; Morgan, 2011). While such evidence is important to identify SES and social capital as social determinants of health and health behaviours, it does not allow a holistic examination of the processes by which socioeconomic inequalities in health and health behaviours are established in the presence of social capital. This limits the recognition of social capital as a potential *health asset* for promoting *inclusive societies* where the health and health behaviours of especially poor adolescents within their families, schools, communities, and among peers are not left behind. It also prevents the identification of protective factors that can be utilised in social and public health interventions to offer equal opportunities to combat socioeconomic inequalities/barriers to adolescents' health and health behaviours. Subsequently, this creates a dearth of knowledge as to whether practitioners should introduce/promote social capital as a mediator or a moderator in policy and interventions targeting the health and health behaviours of especially poor adolescents in Ghana. This is because, each mechanism offers different implications for policy and practice, especially, those for combating socioeconomic inequalities. Moreover, since most existing evidence on the relationships among SES, social capital, and health and health behaviours employed quantitative approaches, there is generally, limited

qualitative evidence on these existing relationships regarding school-aged adolescents (Eshan et al., 2019). Qualitative evidence on adolescents' perspectives and experiences is, consequently, generally often neglected in social capital research. Meanwhile, considering the contextual and cultural nature of social capital (Morgan, 2010; Morgan et al., 2012), exploring adolescents' voices qualitatively could offer a rich understanding of the various ways by which social capital manifests its mechanisms against the effects of socioeconomic inequalities; such manifestations often cannot be captured quantitatively. Also, a review report indicated that one way to gain deeper insight into how social capital can influence health could be to systematically review qualitative data that seeks to investigate this (Eshan et al., 2019). The authors furthermore proposed that a synthesis of qualitative evidence can be valuable to the development and implementation of social capital interventions (Langlois et al., 2018; Eshan et al., 2019). These claims affirm the need for more qualitative data to be made available for deeper insight into the relationship between social capital and health as well as for the effective promotion of social capital interventions in especially the LMIC context.

The paucity of evidence on the role of social capital in the relationship between SES and adolescents' health and health behaviours in Ghana indicates that the significance of social capital as a *health asset* for adolescents' health promotion has not been fully recognised in research and policymaking arenas in Ghana (UNICEF, 2015; MOH, 2021). The present study, therefore, proposes that in a region like Ghana where many adolescents are exposed to poverty and low SES, there is an urgent need for research to ascertain what alternative measures can be put in place to potentially provide primary sources of economic support and *health assets* for especially the poor population as well as empower adolescents to amass these resources from their social

environments. These resources can then be utilised to safeguard their current and future health and health behaviours and possibly their overall development. Therefore, to comprehensively contribute to the sustainable development goals (Goal 3 and 10), to ensure healthy lives as well as reduce socioeconomic inequalities among adolescents in Ghana, this thesis argues that *social approaches* and *asset-based approaches* to the health and health behaviours of adolescents should be of great importance in research and policy agendas as practiced in most high-income countries (Morgan & Ziglo, 2007; Morgan, 2010; Currie et al., 2000; Currie et al., 2012; Inchley et al., 2016). There is also an urgency to examine the psychosocial mechanisms of social capital in the relationship between SES and health and health behaviours to better understand the various mechanisms or processes by which inequalities in young people's, health and health behaviours are established in Ghana. The present study, therefore, identifies and discusses how social capital can be utilised as a potential protective factor for young people specifically school-aged adolescents by disentangling the psychosocial mechanism of social capital (mediator and/or moderator?) in the relationship between SES, and health and health behaviours.

1.3 Research Aims and Objectives

This study seeks to contribute to SDGs 3 and 10 by offering advanced insight and understanding of the various psychosocial mechanisms through which socioeconomic inequalities in health and health behaviours are established during adolescence. It, moreover, seeks to uphold WHO-CSDH's recommendation for researchers to raise public awareness about the social determinants of populations' health. To do so, this thesis mainly aims to explore the psychosocial mechanism of social capital in the relationships between SES and adolescents' health and health behaviours in Ghana. To achieve this aim effectively, this study seeks to:

- Examine the direct and total effects of SES on school-aged adolescents' health and health behaviours.
- Examine the direct effects of social capital on school-age adolescents' health and health behaviours.
- Examine the specific and combined mediating roles of psychosocial social capital in the relationship between SES and adolescents' health and health behaviours.
- Examine the moderating roles of social capital in the relationship between SES and adolescents' health and health behaviours.
- Examine the independent and combined mediating effects of specific social capital domains (in the family, school, peers, and the community) on the health and health behaviours of school-aged adolescents.
- Explore school-aged adolescents' perspectives and experiences of how psychosocial social capital act as a 'protective health asset' for their health-related outcomes against socioeconomic effects.
- Recommend scientific and theoretical evidence-based social and public health policies that can effectively stimulate health promotion programmes, strategies, education, intervention, research, and practices targeting adolescents at both national and international levels based on findings from the study.
- Offer significant theoretical contributions to the theories for researching the social determinants of young people's developmental outcomes.

1.4 Key Research Questions

To achieve the above study objectives, this study seeks answers to the following questions:

- What is/are the psychosocial mechanism(s) of social capital in the relationships between socioeconomic status and school-aged adolescents' health and health behaviours in Ghana?
- What are school-aged adolescents' perspectives and experiences of how social capital functions as a *protective health asset* for adolescents' health-related outcomes?

1.5 Study Significance

Significance 1. This study responds to the call of the United Nation's Global Sustainable Development Goals-SDG (3 and 10) to safeguard healthy lives and foster well-being for all at all ages, as well as lessen inequality within and among countries respectively (UN, 2022). Although this study is not nationally representative as one region was used, using a representative sample size from the region allows for comparisons by demographic characteristics of school-aged adolescents living in diverse socioeconomic contexts (districts) to reveal health inequalities within the poorest region of Ghana, Upper West region. This region has always shouldered the highest national poverty and inequality index as well as multidimensional child poverty (NDCP, GSS, UNICEF, 2020). This study will hence allow comparison among diverse adolescent cohorts and districts; thereby revealing health inequalities under the impact of SES and underlying concerns that should be tackled in regional/district and national-level policy and intervention developments. Nevertheless, since all societies in Ghana practice similar sociocultural norms that

impact adolescents' health and health behaviours, policy implications from this study can be applied at the national level because all adolescents experience similar developmental processes. This will subsequently enable the recommendation of appropriate interventions, policies, and practices to reduce socioeconomic-related health inequalities within Ghana as a step to contributing to the nation's quest to eradicate inequality and multidimensional child poverty in the country.

Significance 2. This study answers to WHO's call for researchers to create awareness of the social determinants of population health inequalities, acknowledge psychosocial resources *(health assets)* in addressing population health inequalities (WHO, 2008) as well as promote social approaches to addressing young people's health and health behaviours (Currie et al., 2000). By promoting psychosocial social capital and asset-based approaches to tackling health-related effects of a social-environmental stressor, SES, this study would offer robust theoretical-based policy recommendations that can potentially guide how SES and social capital-related programmes and interventions targeting families, schools, peers, and communities are outlined in Ghana. This will also, prompt the need for the roles of families, schools, communities, and peers as enablers of 'health assets' to be acknowledged and integrated into health promotion programmes, education, and policies for adolescents in Ghana.

Significance 3. Moreover, this study would offer literature and theoretical contributions to the existing literature and theories on adolescents' developmental outcomes especially regarding their health and health behaviours, health-related experiences, and perceptions, as well as the psychosocial social capital in their social contexts that influence and protect their development amidst socioeconomic inequalities. This is critical for providing national and regional-level evidence on the

psychosocial pathways by which socioeconomic inequalities affect the health and health behaviours of school-aged adolescents in both sub-Saharan Africa and LMICs. Thus, offering evidence and lessons for policymakers, public health practitioners, and NGOs on which psychosocial resources can potentially function as either mediators and/or moderators *(health assets)* in some countries sharing similar characteristics to Ghana. These identified *health assets* can then be tested in other countries and promoted as key components or complements in social and public health strategies, health education programmes, and practices targeting adolescents' healthy development amidst the huge poverty gaps that cripple many adolescents from attaining positive health outcomes as would be promoted for the Ghanaian context. More importantly, these findings will prompt policymakers and intervention providers in collectivist societies to acknowledge the importance of the family, society, and national *social fabric* and the potential for such social fabrics to offer both *monetary* and *non-monetary safety nets* for young people in Ghana. Consequently, policymakers would be advised to adopt strategies that promote and prevent society's *social fabric's* fragmentation and strengthen their functions by endorsing social approaches to addressing social and public health needs, especially, involving social protection and health intervention for adolescents and their families.

Significance 4. Additionally, this study would contribute to international knowledge exchange as findings would be publicised in international journals, book chapters, and conferences to the appropriate audiences comprising researchers, health and education policymakers, health promotion experts, teachers, parents/families, community/council leaders, and young people. This study would, thus, provide international-level enlightenment to all stakeholders in young people's health and health behaviours about which aspects and contexts of young people's lives are likely

to be greatly affected by socioeconomic inequalities and urgently require policy, intervention, and practice prioritisation. This will promote advocacy for research and policy that offer equal opportunities for all adolescents irrespective of socioeconomic status to attain healthy lives and positive behaviours, especially in LMICs.

Significance 5. This study would contribute to theoretical, conceptual, and methodological development in specific areas of adolescent health and health behaviour research. Thus, offering holistic research illustrations, lessons, and recommendations for future researchers who seek to explore socioeconomic and psychosocial social capital-health-related solutions. The *health asset* approach that is employed in this study would make an original theoretical contribution to the subject of researching the psychosocial mechanism of social capital by which socioeconomic inequalities establish health inequalities in adolescence and the broader young people cohort. To the best of the author's knowledge, this would be the first study to employ simultaneously the *health asset approach* to examine the mediating/and or moderating effects of psychosocial social capital against the effects of SES on the health and health behaviours of school-aged adolescents in the Ghanaian context as well as employ it in a qualitative analysis. The *asset-based* approaches to health are eminent in global public health in recent years, particularly in countries such as the US, UK, and other European countries; where public health practitioners now emphasise *what can make us healthy* rather than focusing on *what makes us unhealthy.* The focus of the *asset-based* approach is therefore on identifying protective factors that promote positive health and well-being for adolescents (Morgan & Ziglo, 2007; Hopkins & Rippon, 2015; Von Hippel, 2018; Van et al., 2019). This study would, therefore, offer strong international-level theoretical evidence for promoting social approaches to young peoples' health and health behaviours in Ghana.

Also, this study would offer vital lessons on the conceptualisation and measurement of social capital in young people's social contexts from an asset-based approach. Thus, the specific social capital domains adopted from Morgan 2010 and employed in this study are unique for the Ghanaian context as they have only been utilised in my MPhil study and published works involving Ghanaian adolescents' well-being (Addae, 2020a:2020b). The reliability and validity of all the social capital scales I developed during my MPhil study and in this PhD study have been confirmed positive in this thesis (Chapter 5). This study, therefore, contributes to the measurement of social capital domains for the specific Ghanaian context which considered the cultural and socioeconomic contexts between where existing scales were developed and Ghana and modified the adapted scales to suit the Ghanaian context. The qualitative study also offers novel conceptualisations of some key concepts from adolescents' perspectives that are critical for how relationships between some concepts are conceptualised and measured in research involving children and adolescents.

Lastly, by employing an advanced mixed research design, *transformative sequential embedded mixed design*, this study would contribute to methodological lessons and challenges in carrying out such research with school-aged adolescents.

Overall, this original study can set the pace, stimulate, and direct research in other countries especially those sharing similar socioeconomic and cultural characteristics like Ghana, since all adolescents experience similar developmental phases despite geographical location. For instance, my published work (Addae, 2020a) involving school-aged adolescents from Ghana provided the foundation and direction for other experts in Hong Kong to test the practicality of the *health asset approach* for the well-being promotion of school-aged children in Hong Kong; resulting in policy

tenders for the Hong Kong context (Kühner et al., 2021). This proposed project can, hence, also stimulate policy recommendations by experts/researchers who are interested in influencing psychosocial social capital-related research, knowledge, health policies, and practices for children/adolescents irrespective of their geographical context.

1. 6 Structure of the Thesis

Chapter One introduces the overall background of the study, the research problem, the motivation for this research, the research objectives, the associated research questions, and the research significance. Chapter Two offers an overview of the geography and socioeconomic conditions of the study contexts as well as the rationales for selecting the specific study settings. Chapter Three provides the literature review, empirical findings, and the conceptual and theoretical framework of the study based on findings from textbooks and peer-reviewed journals. Chapter Four gives a detailed account of the systematic stages of the research, methods of data collection (mixed-method research design) and statistical assessments, and the ethical approaches for this study. Chapter Five include the results of the reliability and validity tests of the measurement scales used in the study. Chapter Six focuses on the descriptive analysis of the study participants. It presents univariate analyses of the sociodemographic factors and dependent variables, a bivariate analysis between the sociodemographic factors and the dependent variables as well as bivariate analysis between the key independent variables and the dependent variables (correlation and cross-tabulation-Chi-square analyses). In this thesis, the quantitative and qualitative analysis and related findings and discussions are presented in different chapters. This is because, although both the qualitative and quantitative studies are related, the aim of integrating both approaches in this study is not necessary for the approaches to explain each other as narrated in

the methodology section. The aim is rather to offer evidence from different angles on the importance of social capital as a protective health asset and how it can be promoted as a health asset for advancing the health and health behaviours of young people in Ghana. Therefore, Chapter Seven to Ten presents the quantitative study results while Chapter Eleven presents the qualitative study findings.

Chapter Seven examines and report the total and direct effect of SES on the health and health behaviours of adolescents. Chapter Eight examines and report the direct effect of social capital on the health and health behaviours of adolescents. Chapter Nine examines and presents the psychosocial mechanisms of social capital in the relationship between socioeconomic status and health. Chapter Ten examines and presents the psychosocial mechanisms of social capital in the relationship between SES and health behaviours. Chapter Eleven presents the qualitative findings on adolescents' perspectives and experiences of how social capital act as a protective health asset for adolescents' health-related outcomes. Chapter Twelve presents the discussions and conclusions of both the quantitative (Chapter Six-Ten) and qualitative studies (Chapter Eleven), the strengths, and limitations of the studies, and the theoretical, and policy implications of the study.

CHAPTER TWO

THE STUDY CONTEXT

2.1 Introduction

This chapter presents the synopses of the geography, demography, and socioeconomic features of the broader study context-Ghana and the specific study context- the Upper West region of Ghana. A summary of the country's sociocultural characteristics is also provided. Brief justifications for carrying out this study in Ghana and for selecting the specific context are also offered. Terminologies comprising child/children (people below 18years old), adolescents (10-19yearsr old), and young people (people from 10-24years old) are applied interchangeably for explanations as these age cohorts overlap (GSS, 2014).

2.2 Geography and Demography of Ghana

The Republic of Ghana is in the west of Africa. Ghana has an area of 238,533 KM^2 (GSS, 2012) of which most contains natural resources. During this study, the country comprised 10 regions: Western Region, Ashanti Region, Brong-Ahafo Region, Central Region, Eastern Region, Greater Accra Region, Northern Region, Upper East Region, Upper West Region, and Volta Region as shown in Figure 2.1. After Ghana's referendum in 2019, the nation was stratified into 16 regions thus including six new districts: North-East, Savannah, Oti, Bono East, Ahafo, and Western North.

Figure 2.1: Geographical map of Ghana. The region highlighted in yellow (Upper West region) is the present study's selected region. Source: https://www.mapsofworld.com/Ghana/maps/Ghana-political-map.jpg

Ghana is very diversified comprising more than 75 diverse ethnicities. As such, the regions in Ghana are characterised by distinctive economic and sociocultural features. Due to the diversity in language resulting from diverse ethnicity, English is adopted as the nation's official language for education and any official communication (GSS, 2012). In terms of socioeconomic conditions and development, the 16 regions are further grouped into two key regions, Northern and Southern Ghana, based on their position on the nation's socioeconomic and development ladder. Northern Ghana

denotes regions located at the north of the Ghana map, comprising the Upper West, Upper East, Savannah, North-East, and Northern region, and Southern Ghana denotes those located in the South of Ghana which comprises the remaining 10 regions. Most parts of Northern Ghana encompass less developed rural areas while most parts of Southern Ghana encompass highly developed urban areas. The nation has most of the high economic activities including companies and businesses and social infrastructure located in the capital regions such as Accra for the Greater Accra Region, Kumasi for the Ashanti region, Takoradi for the Western region, etc in Southern Ghana. For decentralisation purposes, these administrative regions are divided into Municipal, Metropolitan, and District Assemblies (MMDAs). Currently, there are 254 MMDAs in Ghana (GhanaWeb, 2017).

As of 2019, the total population was about 30.42 million with Ghana's female population amounting to approximately 15 million, while the male population amounted to approximately 15.42 million inhabitants. The median age of the population as shown in Figure 2.2 was 21.5years in 2020 which is expected to increase to 26.9 by the year 2050 (O'Neill, 2021a: b).

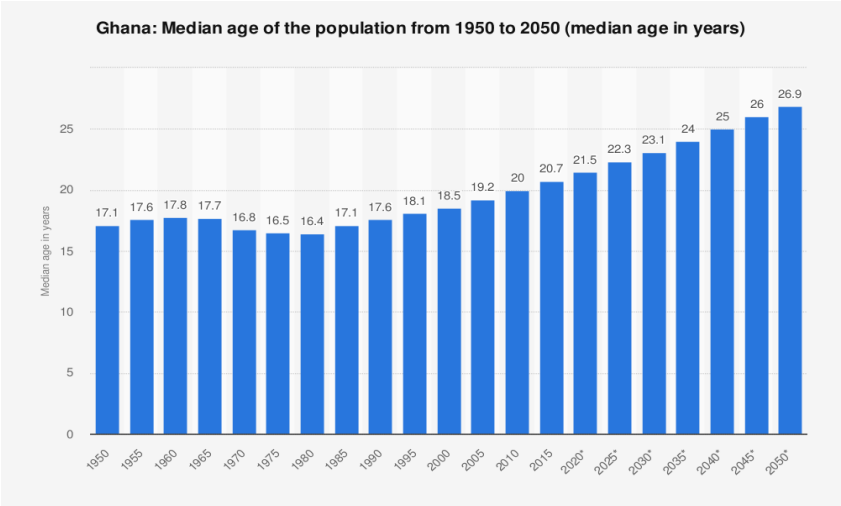

Figure 2.2: Median age of the Ghanaian population.

As shown in Figure 2.3, as of the year 2020, the age structure of Ghana's population was shadowed by young people, with about 37% under 15 years of age, and 60% between 15 and 64yrs (O'Neill, 2021c). A nation with 20% or more of a population aged between 15-24 years is noted to have huge potential for rapid socioeconomic development as it presents an opportunity for *demographic dividend* which results from the potential rise in the productive labour force (15–64 years) compared to the dependent populations of children below 15 years and older adults with time (Kabiru et al., 2013). This signifies that the present young people in Ghana are assets to the nation's current and future development. Developing the nation's human capital for the future development of the nation is very crucial. The development of most young people in Ghana has, however, been in crisis due to the consequences of persistent poverty and socioeconomic inequality in the country.

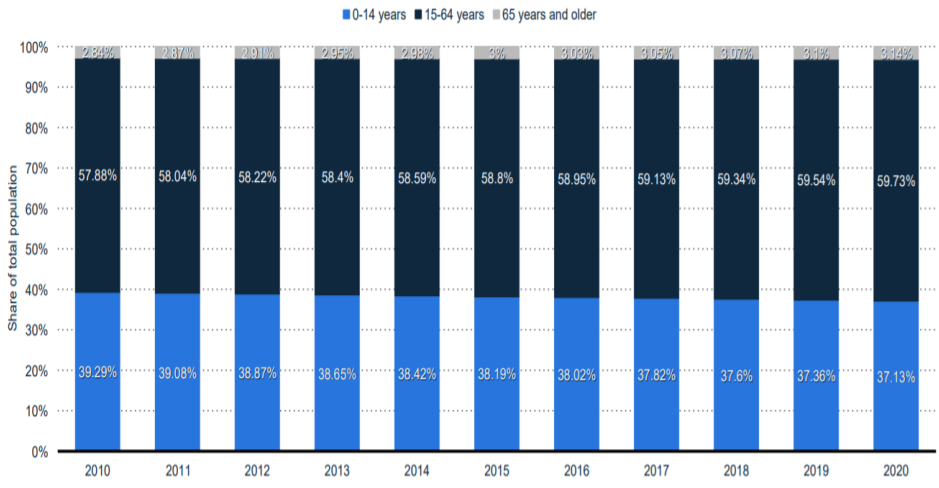

Figure 2.3: Age structure in Ghana from 2010 to 2020.

Ghana is a lower and middle-income country in the West Africa sub-region and places 142nd out of 189 countries and territories in the most recent classification

of the Human Development Index (HDI) (O'Neill, 2021c). Ghana achieved a significant economic accomplishment that led to a substantial drop in poverty incidence from 52.6% in 1991 to 23.4% in 2017 while extreme poverty fell from 37.6% to 8.2% throughout the same period. Ghana hence became the first sub-Saharan African country to slash its poverty rate by over half concerning the Millennium Development Goals. Despite the reduction in the poverty rate, the rate of poverty diminution between 2013 and 2017 was marginal, with the absolute number of poor people rising by nearly 400,000 (NDCP, GSS, UNICEF, 2020). Although Ghana seems to be closer to attaining target 1.2.1 of the Sustainable Development Goals (reducing by at least half the proportion of the population living below the national poverty line by 2030), during 2016/17, the seventh Ghana Living Standard Survey (GLSS7) revealed there remained 6.8 million Ghanaian who was poor and consumed below the equivalent of GH¢ 1,314 per year (below the poverty line) in Ghana. These people, hence, failed to attain their nutritional obligations and their basic non-food requirements. The ferocious circle of poverty remains a mostly rural fad in Ghana, and as of 2017/2018 39.5% of rural residents were poor as compared to 7.8 urban residents (NDCP, GSS, UNICEF, 2020).

The persistent poverty incidence and poverty inequality and extreme child poverty in Ghana signify a potential decline in the nation's economic and social resources which paints a bleak future for the Ghanaian population, especially children and adolescents. However, according to some scholars, Ghana can take advantage of the demographic dividend offered by her young population, to achieve a sustained decrease in its poverty rates by tapping into the potential of her children (Kabiru et al., 2013). The country can boast of a very young population, with almost 45% (11.4 million) of its population below 18 years of age (UN, 2019). These children have the

responsibility of managing the social, demographic, environmental, economic, and political dynamics that mould the country's future. To ensure that this young population contributes to the country's progress and poverty reduction in the country, there is a critical need for the country to invest in human capital development now. The nation can draw on and exploit this demographic dividend to help improve the social and economy of the country. Ghana, should, therefore, create and offer her children the best possible environment where children can develop into healthy, fruitful, and steady adults and this will boost excellent human capital. One way by which Ghana can achieve such a sustainable environment is to boost the nation's *social fabric* that offers *safety nets* for especially poor children in the country. Promoting environments that support sustainable social capital building in young people's social environment is hence an indirect way for Ghana to tap into society's social fabric and safety nets to ensure that healthy lives are promoted for particularly, all children and adolescents irrespective of their SES. Involving the family, schools, communities, and peers of young people in the social capital building as well as safeguarding positive health and healthy behaviours of young people will, therefore, promote an *inclusive society* where every agent in young people's environment feels responsible for their social, economic, and human capital development. This can consequently steer the nation's young people into a future where they are well equipped to break generational poverty and steer the development of the country into a world *where no child/adolescent's health promotion is left behind.*

2.4 Socioeconomic Conditions of Children/Adolescents in Ghana: Monetary and Multidimensional Child Poverty in Ghana

Any conditions, which impede children's opportunities to achieve their abilities and potential are particularly grim in the early stages of children's lives. This is because deprivations in childhood are usually irreparable in their growing phase of life, especially during adolescence. For instance, poverty in childhood presents long-term consequences on physical and socioemotional development as well as affects economic development in adulthood (Chaudry & Wimer, 2016; NDCP, GSS, UNICEF, 2020). Findings indicate that child poverty in Ghana is aggravated by the deterioration in household incomes and/or the deficiency of sufficient social *safety nets* (NDCP, GSS, UNICEF, 2020). This implies that monetary poverty is inadequate to measure poverty. There is, hence, the need for policymakers to move beyond solely assessing and tackling only monetary child poverty to including multidimensional child poverty in Ghana. This will ensure the provision of holistic intervention frameworks to safeguard children against deprivation in all dimensions of poverty including social and health deprivation to help eradicate especially extreme child poverty in the country.

According to the 2020 multidimensional child poverty report, Ghana is committed to ending poverty as stipulated by target 1.1 of the Sustainable Development Goals (SDG), which aims to *eradicate extreme poverty for all people everywhere, currently measured as people living on less than US$1.90 a day*. The SDG target 1.2 urges all nations to *reduce at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions.* A report released in 2020 by UNICEF indicates that to contribute to achieving the SDGs, Ghana recently accessed national-level multidimensional child

poverty in the country, which is a step beyond the usual assessment of solely monetary child poverty in the country (NDCP, GSS, UNICEF, 2020).

Monetary child poverty accesses children's financial resources. The national poverty line is set at GH¢1,314 per capita per year and comprises both food and non-food consumption. Children who live in households where the available members spend below the poverty line of GH¢1,314 per person per year are classified as monetary poor (NDCP, GSS, UNICEF, 2020). Findings show that over 3.5 million, or 28.2 percent of all children in Ghana live in poverty which is higher than for the whole population (see figure 2.4). A greater monetary poverty rate is mostly observed amongst children than the whole population since poor households usually have many children. Comparatively, children in Ghana are nearly 40% more probable to be poor than adults, than when it was merely 15% in the 1990s.

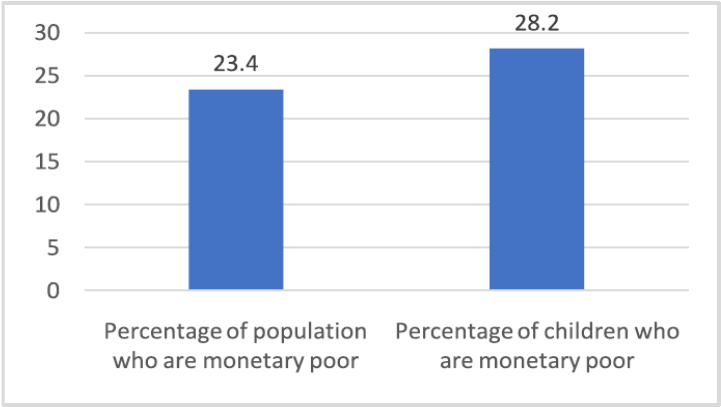

Figure 2.4: Monetary poverty (%) for the whole population and children. (Poverty line set at GH¢1,314 per person per year).

The monetary child poverty rate distribution by region (see Figure 2.5) shows that more monetary poor children are living in the Upper West (77.7%) where this study was conducted, Northern (67.4%), and Upper East (58.1%) regions. The

country's capital region, Greater Accra records the lowest percentage of monetary poor children (3.6%).

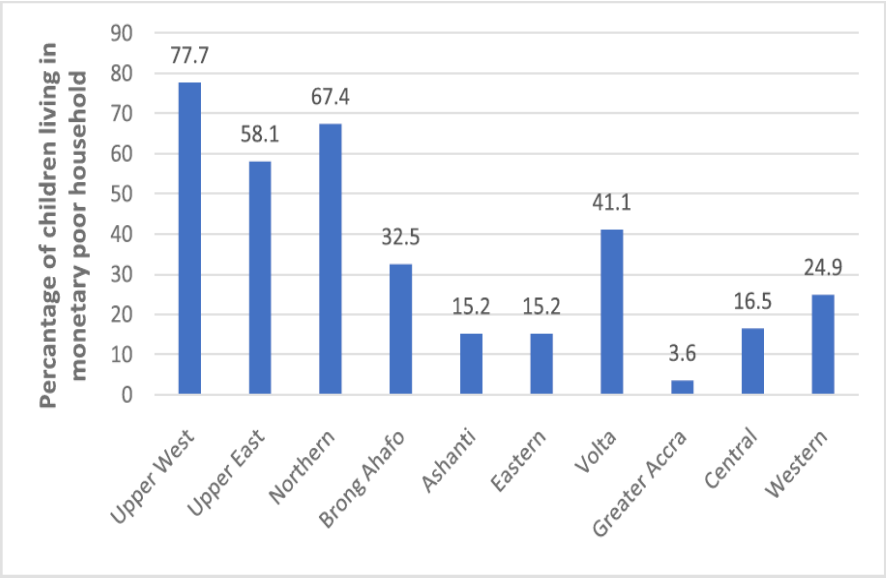

Figure 2.5: Monetary child poverty rate (%) by region. The poverty line is set at GH¢1,314 per person per year.

Additionally, in Ghana, most children face multiple deprivations and have been identified as multidimensionally poor based on an assessment of deprivation of 8 dimensions of poverty: nutrition, health, learning, and development (including adult-child interaction measures for children of 0-4years old), child protection, water, sanitation, housing, and information. Generally, there are less significant gender differences in multidimensional child poverty (NDCP, GSS, UNICEF, 2020).

Figure 2.6 shows the distribution of deprivations among children (0-17 years) in Ghana. Most of the children experienced two or more deprivations simultaneously. Yet again, approximately, half of the children simultaneously experience three to four deprivations (24.1% and 23.6% respectively), while around one in ten children is simultaneously deprived in at least six dimensions. Referring to Figure 2.7, at the

established threshold, which is deprivation in at least 3 out of 8 dimensions, 73.4% of children in Ghana are reported to be multidimensionally poor.

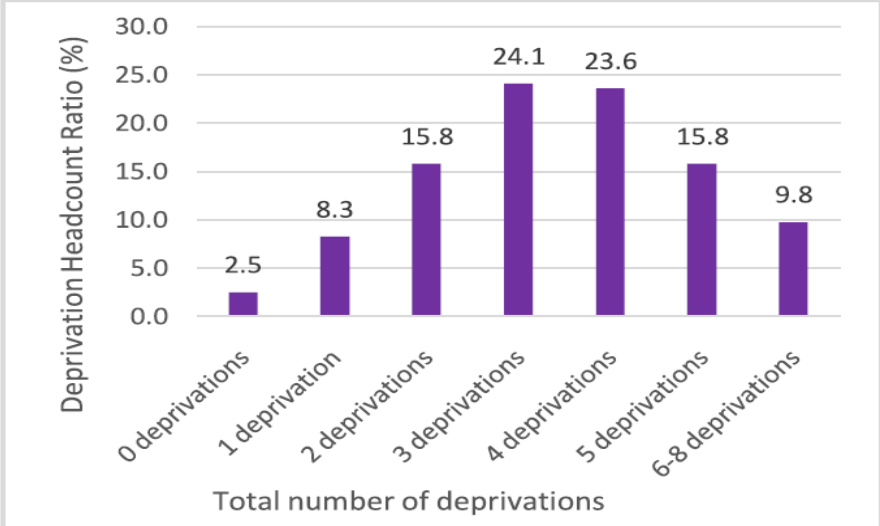

Figure 2.6 Deprivation distribution at the national level (0-17years).

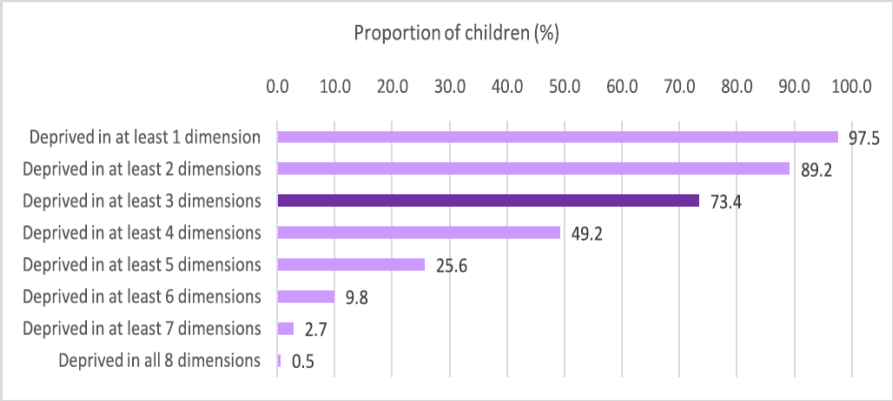

Figure 2.7 Multidimensional deprivation headcount ratio (H) at the national level for each threshold (0-17years).

Figure 2.8 presents a comparison between multidimensional child poverty (specified as a child having at least 3 deprivations) and monetary child poverty by region. The study area, the Upper West region records both very high levels of multidimensional (80.8%) and monetary (77.7%) child poverty. Also, generally, Figure 2.8 shows that multidimensional child poverty is much higher than monetary child poverty across all the regions.

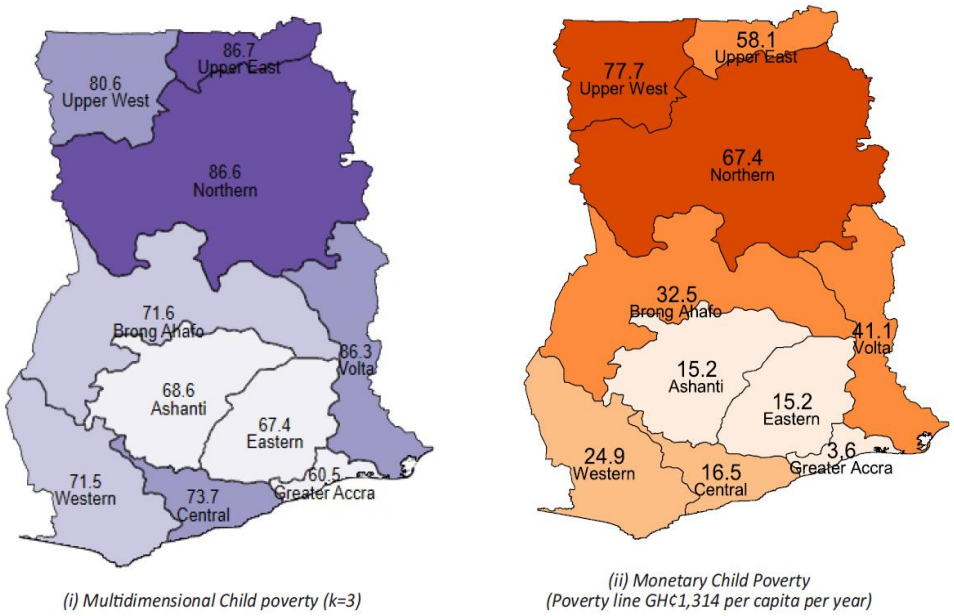

Figure 2.8: Multidimensional Child Poverty (K=3) and Monetary Child Poverty in Ghana, children aged 0-17 years.

All the above presentations illustrate that although policymakers in Ghana recognise the importance of eradicating both monetary and multidimensional child poverty, generally, there is less acknowledgement of the importance of eradicating *social deprivation* (lack of social connectedness) for children in Ghana. *Social deprivation* is hence not highly recognised as a dimension of multidimensional poverty for adolescents in Ghana's assessment of poverty. The negative consequences of *social deprivation* on Ghanaian adolescents' outcomes are well reported in the literature (Addae, 2020a: b; Kühner, et al., 2021). Deprivation in social connectedness/relationships and social resources such as parent-child communication/relationships, autonomy and control, sense of belonging, social support, and social networks have been found to present significant short and long-term impacts on health, well-being, cognitive and socioemotional development of children (Morgan et al., 2012; Ge, 2018; Buijs et al., 2018; Addae, 2020a; Kuehner et

al., 2021). Lack of quality social relationships has also been associated with behavioural challenges in childhood with the long-term consequences manifesting in adulthood (McPherson et al., 2013:2014; Reiss et al., 2019). Evidence by Addae (2020a) also shows that being socially poor has higher detrimental consequences for Ghanaian children/adolescents' well-being than being monetary poor.

The absence of *social deprivation* in the nation's assessment of multidimensional child poverty, therefore, highlights the lack of recognition of the potential *non-monetary safety nets* and other benefits that social capital can offer to children and the potential intergenerational consequences it can pose to the development of children when they are lacking or are inadequately provided during the early stages of one's life. This thesis, is, therefore, critical to offer significant evidence on the potential benefits of promoting psychosocial development of children/adolescents through accumulation of social capital stock. Presenting evidence on the psychosocial mechanism of social capital in the relationship between SES and health and health behaviours as well as adolescents' experiences of social capital as a protective health asset for their health and health behaviours will empower policy makers and researchers to acknowledge that *social deprivation* is a mechanism by which poverty affects children's development and as such, addressing *social deprivation* especially within the family, school, community, and among peers must be recognised in multidimensional child poverty assessments and policy initiatives in Ghana.

2.3 Socioeconomic Characteristics of the Specific Study Area - The Upper West Region

During the study period, the Upper West region consisted of eleven districts (GSS, 2015). The districts selected to participate in the study were Wa Municipal, Nadowli

Kaleo, Wa West, Wa East, Lawra, Jirapa, and Daffiama Bussie as shown in Figure 2.9 below.

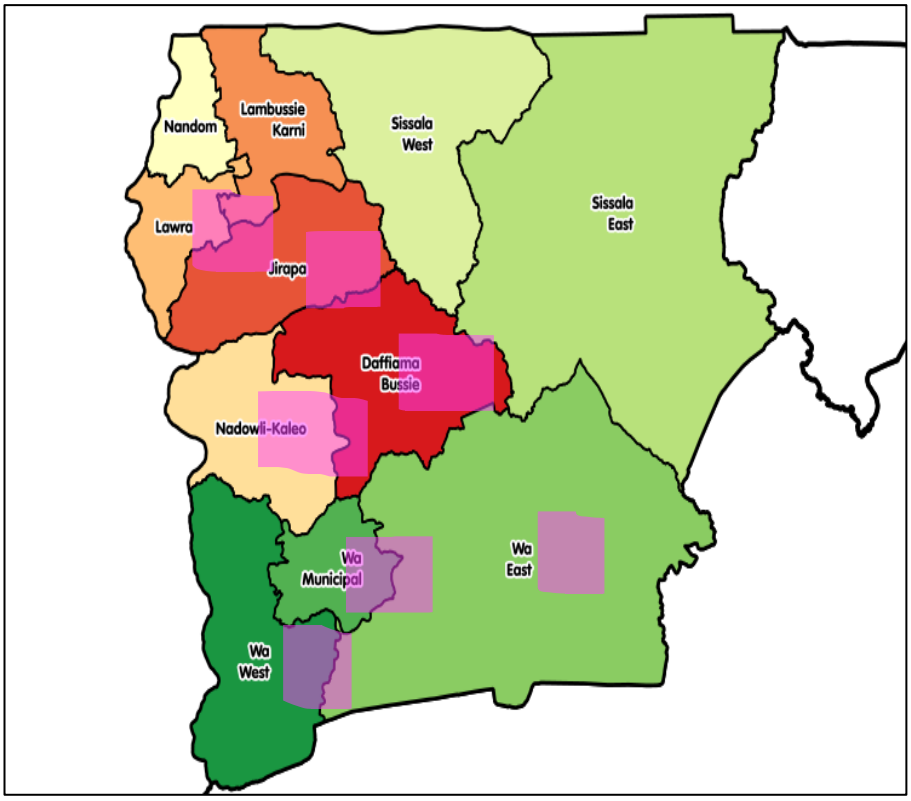

Figure 2.9: Geographical location of study districts highlighted on the Upper West Regional map. Map used during the study in 2018.

The Upper West region has diverse socioeconomic characteristics arising from the diverse poverty incidence in the districts within the region. During the study period, Upper West Region had the highest poverty incidence among all the regions in Ghana. The Upper West region recorded a poverty rate of 70% (GSS, 2015). Yet, within the region, there was a large disparity in the headcount rate across districts. This ranged from a low of around 36% in Wa Municipal to around 84% in Wa East and more than 90% in Wa West. The incidence rates for eight out of the 11 districts in the region ranged from 71.4 to 92.4% and were above the regional average of 69.4% as shown in Figure 2.10. Wa West (92.4%) recorded the highest poverty headcount, followed by

Wa East (83.8%) and Sissala West (81.2%) districts (GSS, 2015). The poverty headcount for the regional capital, Wa Municipal (35.5%) was the lowest in the region. In terms of the number of poor persons, as shown in Figure 2.11, Wa West (74,297) had the highest, followed by Jirapa (62,364) and Wa East (59,577) districts. Daffiama Bussie, which had the lowest population in the region, recorded the lowest number of poor persons. Wa Municipal, on the other hand, recorded the largest population of 102,264 in the region but had a relatively low number of poor persons (36,253) (GSS, 2015).

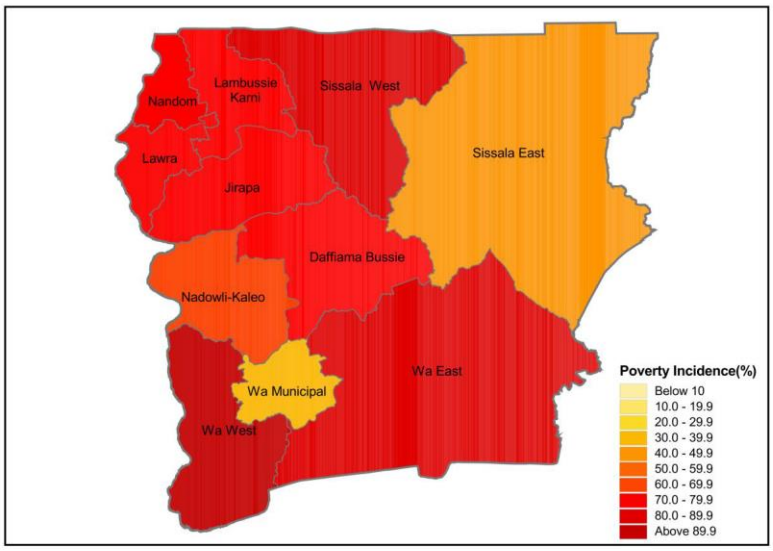

Figure 2.10: Poverty incidence in Upper West region.

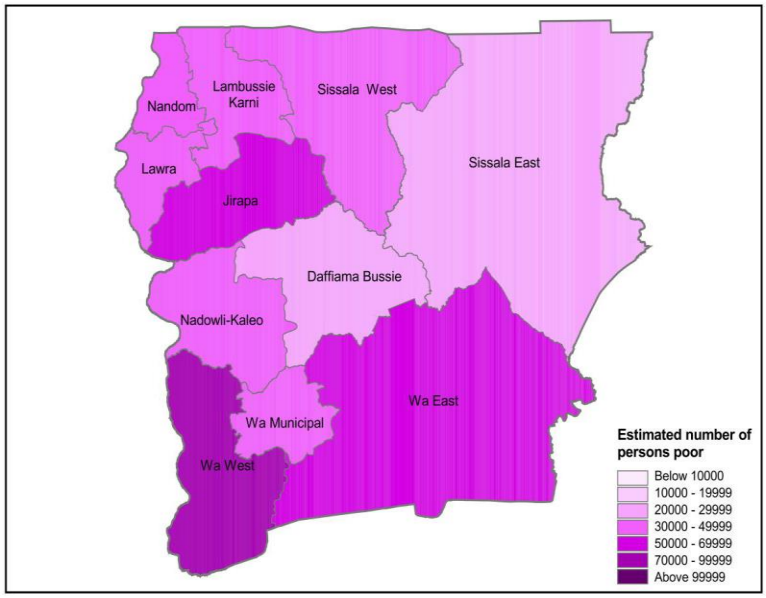

Figure 2.11: Estimated number of poor persons in Upper West region.

The existing regional inequalities in Ghana pose policy concerns regarding how to curtail the disparities in resources allocation including social resources within and across Northern and Southern Ghana. This socioeconomic inequality paired with the fragmentation of society's *social fabric* has exposed adolescents in the Upper West region to various risks including school dropouts, teenage pregnancies, and forced and child marriages (Suuk, 2016). Adolescents from this region are generally exposed to risks of voluntary and involuntary out-migration to Southern Ghana in pursuit of better lives which often are at the expense of their health (Thorsten, 2017). The socioeconomic condition of adolescents from the Upper West Region, therefore, provides a suitable setting for this current study to investigate the potential for psychosocial social capital to be a protective resource for the health and health behaviours of especially poor adolescents in Ghana.

Generally, as already presented in this chapter, the Upper West region recorded high levels of both monetary and multidimensional child poverty. The poverty incidence in the region suggests that in terms of all socioeconomic facets, the

circumstances of adolescents from this region overall can be classed as worse than the entire population. This classifies the region as a suitable context for testing the protective role and the psychosocial mechanism of social capital in the relationship between SES and health and health behaviours of school-aged adolescents in Ghana.

Low SES and poverty have been found to indirectly affect children through the impacts of their parents' behaviour towards them (Mcloyd, 1990). This implies that children in this region are more likely to experience negative parental behaviours due to poverty, which can affect children's access to, for example, social capital such as a sense of belonging, autonomy, and control, and social support in the family context. This behaviour of parents toward children can consequently lead to child delinquent or risk behaviours. A study by Addae and Tang (2021) revealed that adolescents in this region perceive their homes to be unsafe due to experiences of family/domestic violence. The causes of violent behaviours of the family toward the adolescents were found to include issues of lack of power-autonomy and control on the part of adolescents. As explained earlier in this chapter, the hierarchical culture of Ghanaians denies children of autonomy and control. Adolescents' lack of autonomy and control, consequently, makes them victims of family violence (Addae & Tang, 2021). The experiences of family violence by adolescents in the Upper West region also revealed that most adolescents in the region lack family social support and a family sense of belonging at home, which reveals their lack of familial social capital. Moreover, in another report by Addae, (2020a: b), adolescents in the region who are from a low socioeconomic background were more likely to perceive a low sense of belonging, autonomy, and family social support and were also more likely to report high control, low happiness and low life satisfaction compared to their counterparts from a high socioeconomic background. These findings show that poor adolescents in this region

face huge inequalities in most aspects of their lives and several aspects of their development are being left behind. Identifying protective factors for them to overcome developmental inequalities regarding health and health behaviours is hence crucial to reducing the *social gradient* in their health and health behaviours and consequently their overall development.

Contentedly, evidence shows that social capital is an important protective health asset for the life satisfaction and happiness of adolescents from this region against the effects of SES (Addae, 2020a). Thus, social capital mediates the relationship between SES and the well-being of adolescents from the Upper West region. Moreover, evidence shows that familial social capital can offer *non-monetary safety nets* to promote young people's subjective well-being and is recognised as a component in Ghana's Child and Family Welfare Policies' social protection programmes for children and adolescents in Ghana. These findings provide an indication of the psychosocial mechanism of social capital for the well-being of adolescents and therefore offer an inkling that social capital can have possible psychosocial mechanisms in the relationship between SES and the health and health behaviours of adolescents from this region as well as offer possible *non-monetary safety nets* for their health and health behaviours.

A potential fruitful policy intervention targeting the health and health behaviours of especially poor adolescents in this region is, hence, one that recognises the psychosocial role of the family and other social contexts as determinants of adolescents' outcomes including their health and health behaviours. As children/adolescents in this region are more likely to be both monetary and non-monetary poorer than their counterparts in the entire Ghana, there is an urgent need for the examination of both risk and protective factors for the promotion of their healthy

lives and healthy behaviours. Adopting social approaches to addressing the health and health behaviours of adolescents from this region is therefore a potential means by which at least, reducing relative inequality in health and health behaviours within the region and between Southern and Northern Ghana can be achieved.

CHAPTER THREE

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

3.1 Literature Review

3.1.1 Introduction

This chapter presents an overview of the definitions and application of concepts and constructs that are used in this study. Concepts such as socioeconomic status (SES), social capital, health status, health behaviours, and subjective well-being (SWB) are explained. It again provides some empirical evidence on the relationships that SES and social capital have with adolescents' health and health behaviours drawing upon findings from existing research works.

3.1.2 Overview of Definition and Determinants of Health

- **Definition of Health**

A vital step to realise appropriate ways to implement achievable policies and programmes is to 'define' health (Morgan & Ziglo, 2007; Van Bortel et al., 2018). Over time, the definition of health has evolved, and several definitions have been utilised for diverse intentions. Maintaining a biomedical perspective, themes that influenced the initial definitions of health were centered on the functional capability of the body. Hence, health was often regarded as a condition of normal function that can occasionally be disturbed by disease. Based on such perspective, health was, for instance, defined as *a state characterised by anatomic, physiologic, and psychological integrity; ability to perform personally valued family, work, and community roles; ability to deal with physical, biological, psychological, and social stress* (Stokes et al.,

1982, Cited in AFMC, 2021 pg1). Aiming to enhance the definition of health, in 1948, WHO initiated a sweeping parting from earlier definitions and suggested a new definition that linked health to well-being, thus, *physical, mental, and social well-being, and not merely the absence of disease and infirmity* (WHO, 1958pg459). This definition advocated for the first time that, in addition to physical and mental health, social welfare is a fundamental element of the overall health, because health is closely linked to the social environment and living and working conditions (Svalastog et al., 2017). Appreciating this definition as a global concept, most researchers and theorists consequently encouraged the need for adopting effective, practical, and operational definitions of health (Svalastog et al., 2017).

With time, as there came a shift from understanding disease as a 'state' to understanding disease as a 'process', there was also a shift in the definitions of health (AFMC, 2021). In the 1980s, the WHO again led and promoted the development of the health promotion movement. According to the WHO, health promotion is *the process of enabling people to increase control over and to improve their health* (WHO, 1984pg4). Generally, health promotion was established to signify a unifying concept for those who acknowledge the need for change in the ways and conditions of living, as a means to promote health. Health promotion denotes a mediating approach between people and their environments, personal choice, and social responsibility in health to create a healthier future (WHO, 1984). Health promotion was proposed to best augment health through unified action at distinct levels on factors affecting health, wealth, environments, social, and individuals.

Subsequently, a new understanding of health was born, not as a state, but in dynamic terms of resiliency, implying health is a *resource for living* (WHO, 1948; AFMC, 2021). WHO then amended the definition of health in 1984 and defined it as

the extent to which an individual or group is able to realise aspirations and satisfy needs and to change or cope with the environment. Health hence *is a resource for everyday life, not the objective of living; it is a positive concept, emphasising social and personal resources, as well as physical capacities* (WHO, 1984pg4). Therefore, health implied the capacity to sustain homeostasis and recuperate from hostile experiences. Mental, intellectual, emotional, and social health implied the capability of a person to cope with stress, develop skills, and sustain relationships; all of which comprise resources for resiliency and independent living. This definition allows several prospects for health to be educated, bolstered, and studied (AFMC, 2021).

Moreover, the conceptualisation of health as an *ability* in the first decade of the 21st century paved way for self-assessments to develop into major indicators to determine the accomplishment of endeavours targeting improvement in human health (Jahad, 2016). It likewise established opportunities for all individuals to feel healthy, even amidst numerous chronic diseases or terminal conditions, and for the re-assessment of determinants of health (a shift from the traditional approach that focuses on decreasing disease prevalence). This notion infers that health and illness can co-exist (Jahad, 2013).

In 1986, The Ottawa Charter from the 1st International Conference on Health Promotion, held in Ottawa, Canada, also proposed that *health is created in the context of everyday life and environment, where people live, love, work, and play* (Svalastog et al., 2017pg433). Therefore, vigorous and interactive understandings of health were introduced. Health promotion thus aims to unite the approaches for tackling the social determinants as well as the determination and dedication to stimulate and inspire people and communities for their vigorous attitude toward health and incorporating healthy habits (Noack, 1994; Svalastog et al., 2017). Several notions relating to health

promotion were suggested by WHO during the introduction of the health promotion movement in 1984 of which three resonate with this thesis' proposition concerning health promotion for young people. First, WHO (1984) claimed that the focus of health promotion is access to health; thus, reducing inequalities in health and increasing opportunities to improve health. This includes altering public and corporate policies to make them conducive to health and involves reorienting health services to the maintenance and development of health in the population, regardless of current health status. This thesis similarly mainly aims to reduce health inequalities among school-aged adolescents and recognises enhancing equal access to health resources in forms of social capital through appropriate policy and social interventions. Secondly, as proposed in this thesis, WHO (1984) suggested that the improvement of health depends upon the development of an environment conducive to health, especially in conditions at work (which for most young people, it will be their schools and communities) and in the home. Once more, due to the dynamic nature of the environment, health promotion entails monitoring and assessment of the cultural and economic state and trends and this thesis assess the socioeconomic state of adolescents in Ghana.

Thirdly, as proposed in this study, WHO (1984) asserted that health promotion requires the bolstering of social networks and social supports because of the value of social factors and social relations as causes of behaviour pertinent to health, and as substantial assets for surviving stress and sustaining health. This assertion infers the potentially vital role of social capital and its underlying constructs such as a sense of belonging, social support, social networks, autonomy and control, and peer relationships in the health promotion of school-aged adolescents in especially, LMICs. Generally, this thesis embraces WHO's definitions of health as a *resource for living*

and *a capacity* as they allow this thesis to propose social capital as a crucial *protective health asset (resource)* and a *capacity builder* in the context of health promotion. Therefore, based on the definitions and notions presented above, this thesis recognises the *health promotion* of young people as *the process of empowering young people to enhance access, capacity, and control over health assets (resources) in their environment to promote positive health and health behaviours.*

- **Determinants of Health**

Generally, the environment in which one lives is very vital for both his/her health status and well-being. Progressively, it has been acknowledged that the maintenance and improvement in health go beyond the progression and utilisation of health sciences but include individual and society's endeavours and prudent lifestyle choices. The WHO suggests that the key determinants of health comprise an individual's social, physical, and economic context, as well as characteristics and behaviours (WHO, 2008) often referred to as *social determinants of health*. Various factors proposed to affect health are tied to personal choices (for example, the decision to participate in a high-risk behaviour), while others result from structural causes (for example, the arrangement of societies in a system that either inhibits or facilitates individuals' access to essential healthcare services). There are, however, other factors beyond both individual and society's choices, for instance, genetic disorders. Explicitly, some key factors identified to determine the health status of individuals comprise social and economic status; social support networks; social and physical environments; personal health behaviours; gender, etc. (WHO, 2008; Inchley et al., 2016).

In recent years, since the global report on population health by the WHO Commission on Social Determinants of Health, particular attention has been given to

the role of the social environment in establishing population health inequalities. According to the report, structural factors especially socioeconomic status is very critical in the social gradients in population health, causing huge disparities in health outcomes among the poor and rich in societies. On the other hand, social relationships were reported as social determinants, and psychosocial factors were found to be another factor that plays a critical role in the capacity for SES to exert its impact on populations' health. Thus, psychosocial factors including especially social capital formed through social relationships were found to offer vital mechanisms and pathways by which the effects of SES on populations' health and well-being are established.

Social relationships were found to be very important for even preventing cardiovascular diseases and preventing health risk behaviours and mortality (WHO, 2008). Subsequently, in recent years, strategies aiming to tackle the social determinants of health, comprising social connectedness, have risen significantly (GCPH, 2013). Examples of such strategies include the establishment of community engagement/ health initiatives and social prescribing (NICE, 2008; South et al., 2008). Examples of interventions employed in Scotland in the early lives include the universal health visiting service, the Family Nurse Partnership, and the Triple P-Positive Parenting Programme (GCPH 2013; Scottish Government, 2012). Also, in England where knife violence among youth is recently documented as a public health concern, social approaches/interventions to battling knife violence include endorsing positive parent-child relationships, encouraging school and community social support for school children, and endorsing future role models for school children (Brohi et al., 2019). Also, evidence infers that the healthcare sector can accomplish improved health outcomes for lesser costs by investing more in public health and primary care work

that shapes healthier communities, social supports, and environments; an approach usually called the *upstream and equity approach* (Colleaga, 2021).

The above reflections on the definitions and determinants of health corroborate the importance of this thesis' advocacy for a shift from a sole focus on the biomedical approaches to addressing young people's health and its related health behaviours to the inclusion of social approaches in the LMIC context, especially Ghana. As WHO recognises *health as a resource for all*, it is of great concern that investigation of social solutions to issues facing young people, especially at the adolescence stage be promoted by policymakers, intervention providers, and researchers to ensure that appropriate evidence-based policies are provided for all adolescents to have equal opportunities to access *health*. This thesis, therefore, aims to contribute to the global discussion on the social determinants of health by researching the role of psychosocial mechanisms of psychosocial social capital in enabling school-aged adolescents to overcome barriers of socioeconomic inequalities and attain positive health and health behaviour outcomes in the LMICs context.

3.1.3 Definition and Approaches to Health Behaviours

Although several definitions of health behaviour exist in the literature, the common notion is that *health behaviour constitutes an act portrayed by individuals that dictate the direction of health outcomes and mortality of the actor and those around the actor*. For instance, according to Short and Mollborn, health behaviours are activities displayed by people that influence health or mortality (Short & Mollborn, 2015). Health behaviour is highly characterised by its predisposition to occur as multiple risk behaviours (Spring et al., 2012). Also, according to WHO (1984), the general way of life in society is key to health promotion, because it encourages personal

behaviour patterns that are either valuable or unfavourable to health. Also, the advancement of lifestyles favourable to health entails concerns for *personal coping strategies and dispositions as well as beliefs and values relevant to health, all shaped by lifelong experiences and living conditions* (WHO, 1984pg3). Therefore, fostering positive health behaviour and appropriate coping strategies should be a major aim of health promotion (WHO, 1984). Moreover, according to the County Health Rankings (2021), due to policies and programs implemented by governments in their nations, some population groups and communities have been marginalised and are consequently being prevented from accessing health assets required to avoid unhealthy choices and flourish. It is hence essential for advocates to recognise that not all individuals have the capacity to make healthy choices. Therefore, tackling health behaviours requires approaches that encourage individuals to engage in healthy behaviours and access resources for making healthy choices (County Health Rankings, 2021).

Globally, most life-threatening diseases are reported to be chronic and connected to health behaviours (WHO, 2008; Lloyd-Jones et al., 2010; Spring et al., 2012). Health and mortality in adulthood have been linked to health behaviours during childhood and at the early stages of life. Subsequently, a substantial decline in the mortality and morbidity of communicable, maternal, and neonatal disorders since 1990 because of collaborative and cohesive endeavours (Collins et al., 2013; Gururaj, 2013) caused a shift in focus toward the health, safety, and survival of young people. Thus, though most of the scant empirical research has concentrated on adults (Christensen & Carpiano, 2014; Glorioso & Pisati, 2014), recent research and policy are also targeting the early life course (Morgan, 2010:2011; Lloyd & Wyatt, 2014; Mollborn et al., 2014; Inchley et al., 2016). Understanding the health behaviours of

young people has subsequently been proposed to be one crucial way of offering an advanced understanding of how inequalities in adolescents' health and well-being outcomes are established (Currie et al., 2012; Inchley et al., 2016). Health behaviours of young people may be deliberate or unintended and can support or undermine the actor's health or that of others. Health behaviours of young people comprise health-promoting/protective behaviours that prevent diseases or facilitate recovery, such as healthy eating, sleep health, oral health, and being physically active, and health risk behaviours that expose one to possible diseases or hinder recoveries, such as extreme alcohol intake, bullying, smoking, substance use, and risky sexual behaviour (Spring et al., 2012; Short & Mollborn, 2015; Inchley et al., 2016).

Although health behaviours are often considered individual-level behaviours, according to Short and Mollborn (2015), they can be evaluated and epitomised for individuals, groups, or populaces and are dynamic, changing across a lifetime, cohorts and contexts, and period. For instance, Inchley et al. (2016) found that family affluence was associated with weekly drinking which was higher among high-affluence groups in most European countries and drunkenness was more prevalent among high-affluence groups in most countries, however, the opposite relationship was observed in Lithuania for boys and Iceland for girls.

Dedicated concern for health behaviours in the mid-twentieth century subsequently led to the development of endeavours intended at transforming health behaviours (Armstrong, 2009; Short & Mollborn, 2015). Following this, in recent years, there have been critiques against intently specified biomedical approaches to health behaviour research and interventions for an over-accentuation on individual choices and obligations (Short & Mollborn, 2015). Such individual-level emphasis is echoed in theories developed for sensitising individuals to amend health beliefs and

actions (Cockherhm, 2005). On the other hand, a sociological approach magnifies the confines of analysis by underscoring the necessity to explore individual behaviours in context, acknowledging a position for structure and agency. This approach, according to Short and Mollborn regards the position of restraints that reduce choice, and the position of regulating structures that influence the social values connected to actions, personalities, and preferences. Moreover, it involves subjects of societal inequality and power (Short & Mollborn, 2015). A sociological approach, therefore, recognises the roles of both policies and societies in influencing the capacity of young people to make healthy choices.

Spring and colleagues also suggest that there is a poor insight into the mechanisms that create health behaviour clustering as well as its implications for intervention (Spring et al., 2012). Therefore, defining behaviour is an indispensable element of the measurement process because, in the absence of a clear definition, a reliable and valid measurement would be impractical (Cornner & Norman, 2017). Progress made in the conceptual and methodological definition of health behaviours highlight consolidative and vigorous measurement. Vital theoretical progress made in the last decade is the concept of *health lifestyles* (Cockherhm, 2005; Pampel et al., 2010). Policies aimed at health behaviours usually emphasise a single behaviour and usually realise that these behaviours are resilient to change. Employing a *health lifestyle approach*, however, means recognising behaviours as arising in clusters and shaping each other, emerging from intensely rooted personalities evolving from social groups affiliation (Williams, 1995; Short & Mollborn, 2015). This posits that health lifestyles are presented at the individual level but are sculpted by the meso and macro levels. An advanced understanding of the interplay between health behaviours and the social environment is hence acknowledged as essential for effectively transforming

health behaviours (Jessor & Turbin, 2014).

Similar to the social determinants of health, another interdisciplinary approach to health behaviour is from the *perspective of social determinants* which aims to grasp how the social realm influences people's health behaviours. According to the WHO, a key pathway by which health outcomes are established is through health behaviours (WHO, 2008). Health intellectuals differentiate between *downstream* (individual-a person) and *upstream* (community, social structures, macro-level) triggers of health behaviours (Lorenc et al., 2013; Short & Mollborn, 2015). Medical and psychological research concentrates mostly on downstream factors, while political, economic, and sociological research concentrates mostly on the upstream (Pampel et al, 2010). The *meso* level between these two ends is also essential for insight into health behaviours (Schnittker & McLeod, 2005). This level targets individuals' immediate environments in which they live such as communities, families, schools, etc., and the interpersonal interactions that occur within these environments. At the meso-level, advanced research into social determinants has been established. The significance of the environment for individuals' health is progressively recognised (De Clercq et al., 2014; Inchley et al, 2016). For instance, enduring research interests in the influences of neighbourhoods on health behaviours (Belon et al., 2014; Brewer & Kimbro, 2014) are being well understood by modelling neighbourhoods with dynamism, considering selection, and modelling spatial aspects of neighbourhood settings (Sharkey & Faber, 2014; Xu et al., 2014). After assessing neighbourhood poverty across childhood, Wodtke (2013) found a positive association between long-term exposure and the probability of becoming a teen parent.

In recent years, the spread of health behaviours in people's social networks can be modelled statistically (Haas & Schaefer, 2014), and scholars are attempting to

disentangle causality from choices in understanding these processes of social contagion (Abrutyn & Mueller, 2014; Guo et al, 2015). Also, though the advantages of social support are being more explained, there is an evolving subtlety view that emphasises the dark aspects of social relationships (Abrutyn & Mueller, 2014; Haas & Schaefer, 2014).

Essential concepts regarding social determinants of health, such as discrimination and stress, surpass the macro, meso, and micro levels (Brewis, 2014). Likewise, crucial demographic factors, like socioeconomic status, ethnicity, gender, etc., affect health through all these levels (Armstrong et al., 2006; King et al., 2014). For instance, gender has been conceptualised as not only an individual level attribute, but also a substantial element of social structure, with ramifications for health behaviours (Springer et al., 2012). Regarding social status as a crucial root of health inequalities (Link & Phelan, 1995), many researchers have revealed how higher social status allows better access to knowledge and resources, often producing health benefits at the institutional, relational, and individual levels and resulting in modified behaviours (Pampel et al., 2010; Margolis, 2013; Weaver et al., 2014). These different multilevel approaches to understanding health behaviours are increasingly recognised and can result in long-term policy strategies (Inchley et al., 2016).

Despite the various approaches to addressing health behaviours that exist, this study approach health behaviours from the *social determinant* perspective (*health asset approach*) as proposed by the WHO Commission on Social Determinants of Health (WHO, 2008). Employing the social determinant perspective means this study acknowledges the role of psychosocial resources-social capital including social support and social networks as social determinants that contribute to helping young people build resilience and influence the health behaviour outcomes of young people.

This thesis proposes that promoting social capital building in adolescents' social contexts such as the microsystem (family, school, and peers) and exosystem (community) could be one crucial approach that intervention providers and policymakers can consider in their quest to promote positive health behaviours of school-aged adolescents, especially when tackling the huge socioeconomic inequalities that face many school-aged adolescents in LMICs.

3.1.4 Concept of Social Capital

Although many definitions of social capital exist, the concept of social capital was pioneered by James Coleman (1988) and Pierre Bourdieu (1986). Coleman highlighted the dependability of social environments and underscored three forms for accumulating social capital: *through reciprocity exchanges, privileged access to information, and group enforcement of norms* (Story, 2013pg2). This description of social capital encompasses invaluable assets acquired through reciprocity exchanges and through information acquisition and norms implementation to promote developmental outcomes including health and health behaviours of people engaged in social relationships. While the positive aspects of social capital were portrayed by Coleman to be relevant for societies, Coleman likewise acknowledged that social capital could pose harmful consequences including a decline in innovation when members excessively conform to group customs/values/norms. For instance, regarding young people, adolescents who excessively conform to family and societal cultural norms are likely to be exposed to excessive family control and a lack of autonomy which can have dire consequences on their social empowerment and health outcomes (Morgan, 2010; Addae, 2020a). Understanding social capital from Coleman's perspective thus highlights both the benefits and harmful aspects of social capital.

Thus, signalling the need for advocates of social capital for young people to be wary of the potential risks social relationships can pose especially to children and adolescents.

Social capital as a concept from the notion of Bourdieu is about how social inequality in societies occurs (Bourdieu, 1986). Bourdieu classified two attributes of social capital: one is the connection in social networks from which members accumulate assets and the second is the amount and type(s) of assets possessed by members in social networks (Bourdieu, 1986, Story, 2013). The kinds of assets/resources that people can amass in their networks were highly emphasised by Bourdieu. This emphasis on *kinds of resources* is claimed to stimulate possible negative aspects of social capital as it encourages the exclusion of some individuals from profiting from assets presented in networks (Carpiano, 2006). Such negative facets are exhibited in networks including religious groups, ethnicity, and race that create diversity intolerance and consequently lead to inequality in resource allocation in networks. It also encourages societal structures comprising social positions in societies that trigger health inequalities. Social structures arising from social networks are considered critical social determinants of health and health behaviours (WHO, 2008).

Social capital was also defined by Putnam (1993) from the standpoint that networks established among people encourage good actions and pursuits that are valuable to societies. This definition has a notion of good collective attributes comprising relational trust, civic engagement, and values of reciprocity (Story, 2013). Putnam therefore acknowledged the responsibility of the broader community and nation in social capital building (Portes, 2000). Social capital is hence seen as a collective attribute/asset that community members can benefit from depending on the

extent or amount of community social capital available (Carpiano, 2006). Although Putnam conceptualised social capital from similar notions as Coleman and Bourdieu, Putnam was criticised for overlooking the negative aspects of social capital (Portes, 1998). Nevertheless, the collective description of social capital by Putnam promoted this sociological concept in public health (Story, 2013). Though Putnam established social capital as both individual and collective attributes just like Coleman and Bourdieu, Putnam highly underscored social capital as a collective asset revealing the extent of social capital's applicability. Nonetheless, scholars have revealed stronger links between social capital and health at the individual level compared to similar constructs at the collective level (Kim et al., 2008; Elgar et al., 2011).

Furthermore, although social capital is defined from different notions by Coleman, Bourdieu, and Putnam, their definitions exude some resemblances. They all proposed social capital as an individual attribute that is measurable and accessible in social networks (Kawachi et al., 2008). The difference identified in the above three descriptions of social capital lie in Putnam's emphasis on social capital as a collective asset that is accessible at the community or national level. Thus, as Coleman and Bourdieu evaluated the importance of social capital by centering on individuals and small networks such as the family (Portes, 2000), Putnam centered on the advantages obtained from community and civic engagement.

The resemblances in the description of social capital highlight that there are more benefits of individual-level social capital to health promotion than community-level social capital (Kim et al., 2008; Elgar et al., 2011). This is likely because social capital can effortlessly be boosted at the individual level than at the community level. Certainly, connectedness to a bigger community is not an assurance of high social

capital and its associated advantages, rather, social capital stocks and associated advantages lie in the strength of bonds between community members.

Additionally, while Coleman acknowledged the negative aspects of social capital including diminution in innovation owed to excessive compliance to network customs, critics of Bourdieu and Putnam highlight the fact they both did not acknowledge the negative aspects of social capital in their explanation of the concept (Story, 2013). Acknowledging the downside of social capital is crucial for thwarting potential inequalities whilst boosting the positive facets of social capital. This could also provide means to reduce the negative assessment of social capital by critics (Morgan, 2011).

To translate social capital to young people's health and health behaviours using the above three conceptualisations, Putnam's emphasis on social capital as a collective attribute acquired through civic engagement did not apply to children as children generally were not involved in civic engagement (Morrow, 2009) as they are in recent years. The negative aspects of social capital were also not highlighted by Bourdieu. Therefore, since these three descriptions of social capital by Coleman, Bourdieu, and Putnam acknowledge social capital as an individual attribute/asset necessary for health promotion, merging these three descriptions to account for weaknesses in each definition was the best way to define social capital for young people, especially children, and adolescents. From such an outlook, Morgan (2010) then defined social capital for young people from a *health asset approach*. The definition and conceptualisation of social capital for young people by Morgan (2010) are further elaborated under the conceptual framework section of this thesis.

Subsequently, Morgan et al. (2012) proposes that irrespective of the polemics encircling the intricacy of social capital's conceptualisation, this intricacy reveals its

vigour over other concepts if it is suitably described and operationalised. Thus, unlike other concepts with fixed explanations and operationalisation, social capital is adaptable, and it is flexible for operationalisation centered on particular social contexts. The plasticity of social capital, therefore, permits for the amalgamation of diverse theories and approaches from various disciplines to build any research's theoretical framework involving social capital. It similarly permits understanding and definition of the concept from diverse outlooks to offer comprehensive utilisation of the concept in distinct fields. Consequently, irrespective of the intricate nature of social capital, when appropriate definition and operationalisation of social capital are done with consideration of context and outlook, its utilisation in research becomes effortless (Morgan et al., 2012). Efficiently accounting for the differences in diverse explanations and measurement concerns of social capital can therefore offer novel perspectives for interpreting social capital as a health resource for young people and offer vigorous social capital framework for evaluating young people's health and health behaviours (Morgan, 2011).

3.1.4.1 Bonding, Bridging, and Linking Social Capital

To Advance Putnam's theory of social capital, three classifications namely bonding, bridging, and linking (Figure 3.1.1) were established considering the forms of available social connections (Szreter & Woolcock, 2004). Bonding social capital signifies strong connections between people who are alike in social features such as family and peers that result in a tightly woven social network (Putnam, 2000). Despite the acknowledgement of the positive facets of bonding social capital, it is also acknowledged that bonding social capital can lead to the social exclusion of certain groups of societies when some members of groups use their social network and capital to control others in communities (Leonard, 2008; Morgan, 2011). Bonding

relationships with peers are significant for adolescents' social adjustment and self-identity formation (Deci & Ryan, 2000). For instance, concerning adolescents, although helpful friendships can offer adolescents socioemotional aid to rise above stressful life events (Poulin & Chan, 2010; Currie et al., 2012), harmful friendships can stimulate risk behaviours among adolescents causing poor health outcomes. Researchers and advocates must hence obtain deeper insights into the aspects of bonding relations that should be promoted for better outcomes for young people (Morgan, 2011).

Bridging social capital represents weak connections to networks in which the members are not alike in their social characteristics and there are weak social commitments among members. Such cases are when people from different ethnic groups or associations form connections with each other (Putnam, 2000). While bonding and bridging social capital were proposed to be vital for health promotion (Kim et al., 2006), some scholars also claim that weak social connections have higher benefits for people than strong connections (Granovetter, 1973). This is due to reasons that weak connections allow members the freedom and opportunities to form connections with many networks and consequently attain a high number of social resources while strong connections limit connection to many networks and consequently limit opportunities to amass high social resources for health promotion (Portes, 1998; Morgan, 2011).

On the other hand, linking social capital is a kind of bridging social capital in which connections are formed between people of different social characteristics and power such as with formal social institutions (Szreter & Woolcock, 2004). The importance of linking social capital seems to be adult focused as it relates to acquiring social resources from formal social institutions. Yet, some scholars claim that linking

social capital can also be beneficial to young people's civic engagement by empowering them to actively participate in health promotion decisions concerning their lives (Moore, 1999; Morgan et al., 2012).

Differentiating between the kinds of social capital fosters the examination of risks linked to societies' *social fabrics* and strong bonding social relationships likely to restrict young people's autonomy, encourage peer risky behaviours, and nurture diversity intolerance (Portes, 1998). This thesis accents bonding social capital that mirrors close connections between young people and people in their families, school, communities, and peer context.

3.1.4.2 Structural and Cognitive Social Capital

For research design and analysis, the two distinctions of social capital (individual and collective level) are classified into structural and cognitive social capital (Harpman, 2008). Structural and cognitive social capital are analytically differentiated on the fact that diverse kinds of social capital influence health outcomes in different ways (Harpham, 2008). It is proposed that cognitive social capital underscores people's feelings such as social trust, reciprocity, and active norms. It is often subjective and be confirmed by analysing people's feelings and experiences (Figure 3.1.1). Again, it infers the social interconnection binding networks together and assessed by subjective pointers including social support and neighbourhood satisfaction (Uphoff et al., 2013). Cognitive social capital hence mirrors psychosocial dimensions of social capital.

On the other hand, structural social capital underscores the actions of individuals such as engagement in social networks and its assessment is the primary objective; proved by assessing people's mindsets and behaviours (Harpham, 2008).

Evidence suggests stronger relationships between health and cognitive social capital than with structural social capital (Kim et al., 2008).

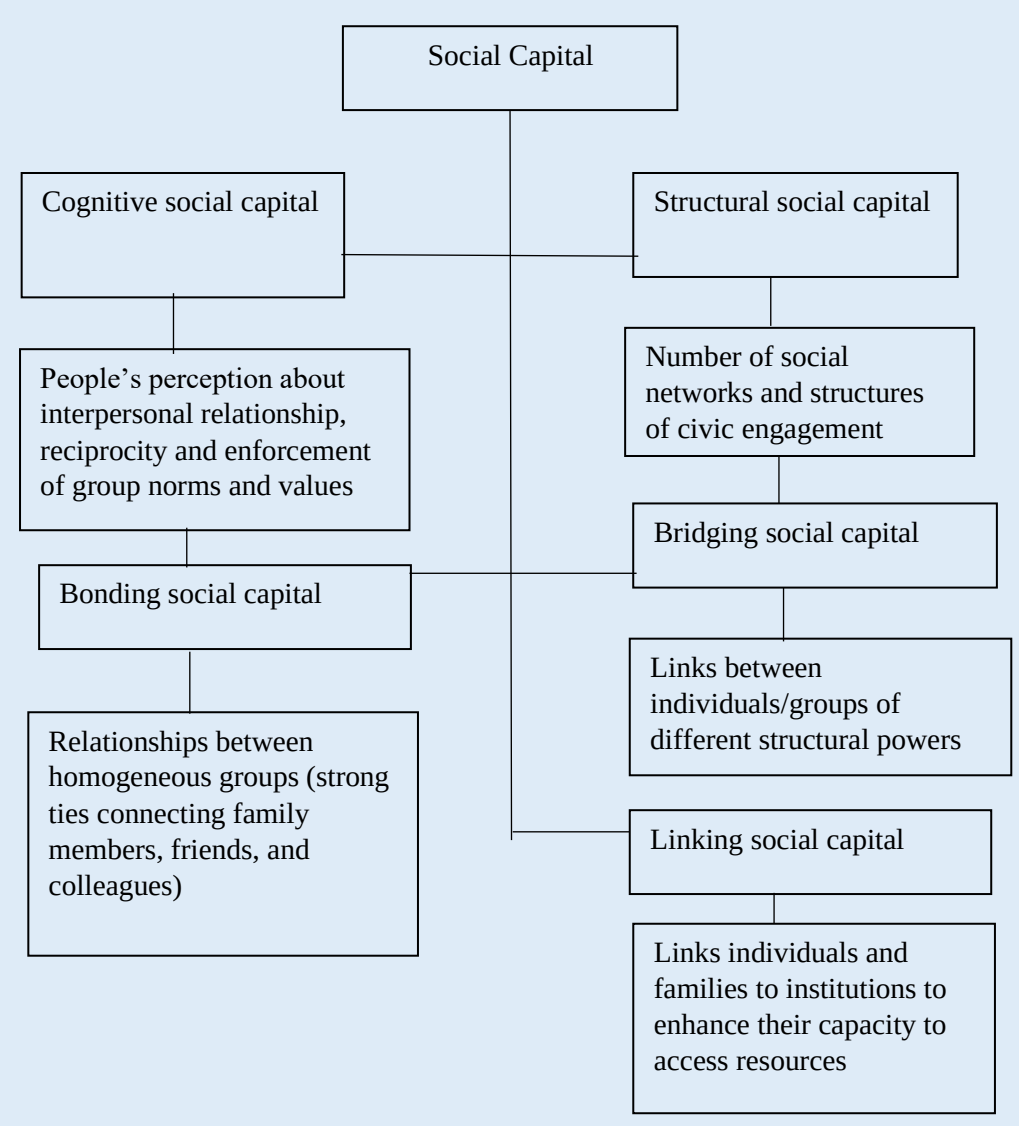

Figure 3.1. Constructs and types of social capital. Adopted from Addae (2019)

3.1.5 Social Capital and Young People's Health and Health Behaviours

The notion of applying social capital to the health promotion of young people has recently become prominent among some scholars and policy practitioners, especially in the public health sphere as research evidence affirms that social capital can be considered a *health asset* for young people (Morgan & Haglund, 2009; Morgan,

2010:2011; Morgan & Haglund, 2012; GCPH 2013; McPherson et al., 2013:2014). Thus, social capital can function as a resource that boosts the capability of young people to maintain and preserve health and positive health behaviour (Morgan & Ziglo, 2007; Morgan, 2010). For instance, evidence from the WHO-Health Behaviour in School-aged Children (HBSC) studies revealed that social capital matters for young people's health and health behaviours. In these studies, several social capital indicators including family, school, and neighbourhood sense of belonging were found to be related to the health and health promoting behaviours of young people in England (Morgan & Haglund, 2009; Morgan, 2011).

Also, according to Eshan et al. (2019), there is adequate evidence to propose that social capital predicts better mental and physical health, and indicators of social capital are protective against mortality. Despite these proposals, while numerous studies have been conducted to examine the influence of social capital on adults' health and health behaviours, limited attempts have been made to examine how social capital influences young people's health and health behaviours (Eriksson et al., 2011; Bwalya & Sukumar, 2017).

Previous findings have demonstrated how inequalities exert their influence through psychosocial mechanisms such as family, friends, community, and school factors during adolescence (Parcel et al., 2010; Buijs et al., 2016; Ge, 2018; Addae, 2020a; Kühner et al., 2021). Similar to adults, children also have their own networks and social relationships from which they may accrue benefits (Dufur et al., 2016). However, young people especially children are portrayed as passive recipients of the benefits of social capital possessed by their parents or family (Leonard, 2005). Studies by Coleman suggest that social capital has an important influence on children's lives (Coleman, 1988:1994). Studies examining the relations between social capital and

health concluded that participation in social networks and social activities substantially increases the chances of better health (Kawachi et al., 1997; Kawachi et al., 1999; Cattell, 2001). It is suggested that feelings of connectedness, trust, and mutual respect among neighbourhood residents can increase their quality of life and thereby influence their health (Ross & Jang, 2000). According to Mechanic, *most behaviour, either conducive or detrimental to health, is influenced as much or more by routine organisation of everyday setting and activities as by the personal decisions of individual* (Mechanic, 1990, p.16). Ellen and colleagues also suggest that the influence of neighbourhood on health outcomes can be acted through neighbourhood-based networks and norms that affect health behaviour (Ellen et al., 2001). As much as adults' health, children's health also can be influenced by neighbourhood/community socioeconomic statuses and social climate through this pathway. Studies examining the effect of neighbourhood characteristics on children's outcomes such as health, cognitive ability, and educational achievement showed that even after controlling for family-level characteristics, neighbourhood quality has a significant association with child health outcomes (Morrow, 2000; McCulloch & Joshi 2001; Curtis et al., 2004). A study, investigating the effect of community social capital on adolescents' perceived health and well-being in Belgium, found that community social capital predicts health better than individual social capital (De Clercq et al., 2011). Similary, Aneshensel and Sucoff (1996) examined how structural aspects of neighbourhood contexts influence young people's mental health and revealed that young people in low socioeconomic neighbourhoods identify more environmental dangers including crime, violence, etc. These were found to have an enduring influence on their mental health.

Also, some authors report that lower rates of peer support are associated with

depression (Young et al., 2005) and a higher prevalence of substance abuse (Samdal et al., 2000). The school environment has a potential benefit for adolescents' self-esteem, behaviour, and future health (Wit et al., 2011). So, the quality of social relationships in adolescence is very important because, for example, it has been confirmed that youth who are close to their parents report higher self-rated health (Pederson et al., 2004) as well as fewer physical and psychological problems (Moreno et al., 2009). Close friendship ties represent a critical development task in young people, affecting their social adjustment (Poulin & Chan, 2010). Evidence highlights that people with higher social capital levels tend to be more likely to present a positive self-perception of their health (Murayama et al., 2012; Uphoff et al., 2013). For instance, Novak et al., (2018) found significant relationships between good self-rated health and a higher level of family support, neighbourhood trust, and vertical school trust among Lithuanian high school students. After controlling for all covariates, a higher level of family support and neighbourhood trust remained significant predictors of good self-rated health.

Moreover, evidence infers that social capital is associated with the lowest prevalence of certain health risk behaviours (Lindstrom, 2008; Ball et al., 2010; McPherson et al., 2013). Social capital can increase the speed that knowledge is disseminated regarding the importance of behaviours that are considered positive and the harmful health effects of other behaviours, as well as increase the chance of healthy behaviours being adopted as standard by the community (Kawachi & Berkman, 2000; Lindstrom, 2008). Thus, part of the positive relationship that exists between social capital and health is probably due to behavioural factors. For example, Bwalya and Sukumar (2017) found that social capitals in family, community, and school have a significant influence on children's health behaviour (diet and physical activity) of

children in Ireland.

Considering the life of young people, school is also an important setting where most of their daily interactions happen. A school's physical environment and quality of relationships with friends and teachers can have an important influence on children's health and health behaviours. Like drawing parental human capital at home, strong teacher-student relationships can facilitate children to draw from teachers' human capital at school (Parcel et al., 2010). Moreover, schools can be a source of information on health-related matters for children which can have a major influence on their health behaviours (Nutbeam, 2000). Studies suggested that connectedness to school during adolescence has a positive effect on educational outcomes and health risk behaviours. Thus, children who have a poor relationship with peers and teachers are more likely to report engaging in risky health behaviours or are in poor mental health (Nutbeam et al., 1993; Catalano et al., 2004; Bond et al., 2007; Fletcher, 2015). Being bullied, not getting along with teachers, feelings of not belonging, not doing well at school, and feeling under stress are noted as the main factors that are detrimental to children's connectedness to school (Bond et al., 2007; Meisel & Colder, 2017). The present literature suggests that children are influenced by factors in different social contexts. Therefore, a comprehensive approach is needed to examine how children's health and health behaviours are influenced by social capital in different contexts such as the family, school, community, and peers' contexts.

Despite that several evidence has been provided on the critical benefits of social capital to health as illustrated above, a recent review of systematic reviews by Eshan et al. (2019) infers that although there is significant evidence to suggest that social capital promotes positive mental and physical health, and various constructs of social capital offer protection against mortality, several reviews also reported many

non-significant and negative relationships that require consideration. Also, their findings implied that evidence on how diverse facets of social capital influence diverse health outcomes for diverse actors remains unclear. Similarly, inconsistent findings were reported in a systematic review by McPherson et al. (2013) where in some instances, positive effects of family and community social capital on health risk behaviours were observed, whereas in some instances a negative or no effect was observed.

The above findings support the need for not only country-specific research to examine how diverse social capital indicators affect different outcomes of young people including health and health behaviours, but also, require investigation into how diverse population groups are impacted by diverse social capital indicators. This thesis, therefore, examines the relationship between several indicators of psychosocial social capital and diverse health and health behaviour outcomes of school-aged adolescents in Ghana Chapter 8 to offer evidence on how especially psychosocial social capital affects the health and health behaviours of this populace in the LMIC context.

3.1.6 Socioeconomic Status (SES) and Young People's Health

Health inequalities can be regarded as the result of the accumulated impact of years of exposure to health risks of those who live in socioeconomically less advantaged circumstances (WHO, 2008). Socioeconomic inequalities are a crucial subject in politics, social sciences, and public health research. Families with a low SES are deprived in multiple ways and suffer from a higher number of stressors related to finances, social relations, health complaints, etc., than those with a high SES (Weyers et al., 2010; Senn et al., 2014). These socioeconomic inequalities affect not only parents' but also children's lives (Reiss et al., 2019). For example, children with low

SES mostly have poor access to social engagement than their colleagues with high SES (Engels et al., 2011). Moreover, children with low SES suffer more often from health problems than children with high SES (Vukojevic et al., 2017; Reiss et al., 2019). Results from time-series analysis of 34 countries from 2002 to 2010 showed that inequalities between socioeconomic groupings soared in several spheres of adolescent health; thereby, adolescents with a low SES were more stricken by psychological and physical symptoms (Elgar et al., 2015) which can consequently affect health status.

Children and adolescents with low SES are once more found to be two to three times more likely to develop mental health problems than their peers with high SES (Reiss, 2013). In various studies, markers of low SES were linked with heightened mental health complications in adolescents (Najman et al., 2010; Ravens-Sieberer et al., 2008). Markers of childhood SES are described to segregate in influencing the inception, obstinacy, and seriousness of mental disorders (McLaughlin et al., 2011). For instance, family income and parents' education predict mental health problems of adolescents stronger than parents' low occupation status (Reiss, 2013). Furthermore, parents with a university degree are more likely to have children with higher positive psychological health than children of parents with no university degree (Padilla-Moledo et al., 2016). Additionally, low SES is linked to more problems in diverse aspects of our daily lives as well as an introduction to stressful life conditions (Lantz et al., 2005) and low SES boosts stress levels in adolescents regardless of their gender (Glasscock et al., 2013). Furthermore, family stress fairly accounts for the link between SES and mental health problems symptoms in a Swedish sample of adolescents (Boe et al., 2018). This is in line with the results of a longitudinal study by Koechlin and colleagues (2018) reporting that both childhood stressful life experiences and lower

maternal education degrees considerably determined adjustment problems in adolescence (Koechlin et al., 2018). Similar findings were reported for the mediating role of life stressors in the relationship between SES and mental health status in young adults participating in a longitudinal US study (Businelle et al., 2014). Xu et al. (2019), using a sample of 1220 Chinese adolescents found that SES was negatively related to adolescent depressive symptoms. It can, therefore, be assumed that low SES is associated with more problems and stressful life situations in the family which increases the risk of children's poorer health outcomes including mental health problems and symptoms. Persistent stressful life events can consequently lead to the adoption of risky behaviours as coping strategies by adolescents.

Some studies have also shown associations between SES and self-rated health and mental health outcomes. For instance, Bannink et al. (2016) found among UK young adolescents that those adolescents who identified their families as poorer than their friends (instead of about the same) were less likely to attain greater self-esteem which is linked to self-confidence. Regarding self-rated health of adults and young children, positive associations with SES have constantly been revealed, i.e., higher SES is connected to fewer morbidities, reduced risk of early mortality, and improved self-rated health (Kennedy et al., 1998; Marmot, 2005). For adolescent health, however, the association is more uncertain, with some studies showing a positive association (Richter et al., 2012; Plenty & Mood, 2016) and others showing a weak or no associations (Piko & Fitzpatrick, 2000; Siahpush & Sing, 2000; Spencer, 2006). For instance, Joffer et al. (2019) in a multivariable analysis found that while subjective social status in school was positively associated with self-rated health, there was no significant association between SES and self-rated health among Swedish adolescents. Low family affluence has also been associated with poorer self-rated health in most

European countries and regions for both genders (Currie et al., 2012; Inchley et al., 2016). In the same report, low family affluence was associated with a higher occurrence of multiple health risk experiences in 26 countries and regions (Inchley et al., 2016).

Generally, irrespective of context, it is found that young people at the lower level of the economic ladder often experience poorer health than their colleagues at the higher level of the economic ladder. Health promotion of young people hence also must consider the promotion of economic resources alongside the promotion of psychosocial resources.

3.1.7 Socioeconomic Status (SES) and Young People's Health Behaviours

Inequalities in health behaviour have been found to explain, at least partially, socioeconomic inequalities in adolescent health (Richter et al., 2012; Friestad et al., 2012; Mackenbach, 2006). For example, Moor et al. (2014) demonstrated that family affluence inequalities in self-perceived health were explained by almost 50% behavioural and psychological factors. Like studies on health inequalities, an association has been found regarding health-related behaviours such as frequency of eating breakfast or tooth brushing (Levin & Currie, 2009; Richter t al., 2009; Fismen et al., 2012), but findings are inconsistent regarding other behaviours such as substance abuse or use of leisure technology (Costa-Tutusaus et al., 2016). In addition, although socioeconomic inequalities may affect certain health behaviours more than others, especially during adolescence, findings illustrate a varying relationship between socioeconomic position and health behaviours depending on the objective or subjective socioeconomic pointer employed (Fismen et al., 2012; Turrell et al., 2003). Such findings illustrate the significance for researchers to critically assess what

dimensions of SES best address the conceptualisation of the relationship between SES and health behaviours of young people in different contexts.

Additionally, SES has been found to independently, but inconsistently relate to young peoples' health behaviours such as tobacco and alcohol use, and physical inactivity. For example, reviews by Hanson and Chen (2007), and Chen and Matthews (2002) show that previous works have found negative effects of lower SES on adolescent eating patterns, physical activity, and smoking. Although the health effects of certain individual risky behaviours (e.g., heavy drinking, smoking) are well known, Pickett et al. (2006) demonstrate the multiple effects of multiple risk behaviour on youth injury outcomes and indicate that these are not altered by SES. Currie et al. (2012) and Inchley et al. (2016) also found that an increase in injury incidence was linked to low family affluence for boys in around half of countries and regions and about two-thirds for girls in a cross-country study. Puolaka et al. (2018) found in a longitudinal study of young Finns that SES in childhood was associated with health behaviours. In this study, higher childhood SES predicted a healthier diet in adulthood. Childhood SES was also directly associated with the physical activity index.

Inchley et al. (2016) again found that positive health behaviours of adolescents such as eating breakfast and evening meals, fruit consumption, and physical activity were associated with family affluence in over thirty European countries. Puolaka et al. (2018) again found among young people that low SES was linked to the risk of being a smoker and the number of pack years. Life-course level of smoking was also significantly higher, and the physical activity index was lower among those below the median childhood SES when compared with those above the median SES.

Moreover, the relationship between SES and health behaviour has been reported in national-level and cross-country studies to be contextual, leading to

inconsistent findings across different contexts, times, ages, gender, or regions even in the same studies. For instance, it was reported that while family affluence was not significantly related to the early onset of tobacco use in most European countries and regions, a significant association was observed for boys in eight European countries where it was more prevalent in low affluence groups in five and high affluence in three (Currie et al., 2012; Inchley et al., 2016). Lower family affluence was also significantly associated with weekly smoking in boys in some European countries, but an opposite relationship was observed in Denmark (Currie et al., 2012; Inchley et al., 2016). While family affluence was associated with weekly drinking which was higher among high-affluence groups in most countries and drunkenness was more prevalent among high-affluence groups in most, the opposite relationship was evident in Lithuania for boys and Iceland for girls. Again, the relationship between SES and cannabis use was inconsistent: higher incidence was linked to high affluence in some countries and low affluence in others (Inchley et al., 2016).

Again, reports show the varying direction of association between SES and health behaviours (Inchley et al., 2016). For example, while sexual intercourse was associated with family affluence in some countries and regions, the direction of association varied. The relationship was stronger in boys, for whom the tendency was for higher prevalence among those in the highest-affluence group. For girls, the association was positive in two countries and regions and negative in four. The largest difference was among boys in Armenia and the Russian Federation, where higher prevalence was associated with high affluence. Being bullied on the other hand varied with family affluence in some countries and regions, involving lower bullying victimisation with increasing affluence in virtually all cases. Prevalence of bullying others varied across family affluence for a relatively small number of countries and

regions, representing lower bullying with higher affluence for girls but no clear pattern for boys (Inchley et al., 2016).

All the reported inconsistencies in the association between SES and health behaviours across countries necessitate the need for this country-specific research in Ghana despite existing evidence in the literature on the relationship between SES and adolescents' health behaviours.

3.1.8 Psychosocial Mechanisms of Social Capital in the Relationships Between Socioeconomic Status and Health and Health Behaviours

The Commission on Social Determinants of Health proposed some identified mechanisms through which socioeconomic position influences health, and three main pathways were suggested (WHO, 2008). The first mechanism describes health inequalities as the result of the differential exposure to experiences that are determined by material conditions. Therefore, although material wealth does not have a direct effect on health, it enables access to material resources that promote it. The second mechanism is recognised as the effect of health inequalities through psychosocial effects of poverty, such as boosting stress and dwindling social resources. Earlier findings have revealed how inequalities exert their influences through psychosocial mechanisms such as family, friends, and school factors during adolescence (Richter et al., 2012; Moor et al., 2014). Psychosocial mechanism refers to psychological and social processes or pathways often providing a type of causal explanations of mental states and behaviour, often regarding underlying processes, systems, activities, or entities (Koch & Cratsley, 2020). These psychosocial mechanisms often arise from social relationships that provide strong social capital in the forms of psychological and social resources. This implies that socioeconomic status affects health through social capital. Lastly, the third mechanism explaining how socioeconomic position affects

health is through health-related behaviours. The above propositions from WHO infer that SES, psychosocial social capital, health, and health behaviour are interrelated. The interrelations among SES, psychosocial social capital, health, and health behaviours imply that the various mechanisms that affect health are more likely to also affect health behaviours. With that said, scholars suggest that SES also affects health behaviours through several mechanisms including material wealth and psychosocial factors (social capital) (WHO, 2008; Solar & Irwin, 2010; Morgan, 2010:2011).

Social capital has been found to function as a buffer against many harsh conditions that arise from one's environment such as deprivation, poverty, low SES, and health inequalities (Verhaeghe & Tampubolon, 2012; Uphoff, 2013; Zou et al., 2018). For example, in a study by Diener et al. (2010), probable mediators of the relationship between income and indicators of mental health were examined. Their findings showed that fulfilling one's social-psychological needs (belongingness and autonomy) was a mediator in the income and positive affect (happiness) relationship which also depicts one's mental health. A significant relationship between SES, health status, social capital, and health behaviours has also been revealed (Boyce et al., 2008). Mohan et al. (2005) provides tentative evidence that health behaviours (smoking, alcohol use, diet, exercise) and *individual material circumstances* may partially mediate the relationship between social capital and health. Social capital and risk behaviours has been associated to self-rated health (Poortinga, 2006). Moderating effects of school and home contexts on young peoples' experiences of multiple risk behaviours have also been reported (Pickett et al., 2006). Studies also suggest that the effect of social capital on health mediates through influencing the individual health behaviours (Kawachi and Berkman 2000; Lindstrom, 2008; Lindström et al., 2001; Lindstrom et al., 2003).

The above reports, therefore, propose the psychosocial mechanism role of social capital in the relationship between SES and health and health behaviours. Nevertheless, overall, limited research exists on the kinds of social capital mechanisms, thus, whether social capital plays a moderating and/or mediating role in the relationship between SES and health and health behaviours. Nonetheless, the mechanism through which psychosocial social capital affects health and health behaviour is critical for policy propositions. A mediating, or indirect relation, indicates that *a third variable underlies an observed relationship between two variables* (Mackinnon & Luecken, 2008; Buijs et al., 2016pg3). This would mean that high SES leads to higher social capital, which would consequently lead to higher health and lower health risk behaviours. Thus, social capital explains the SES-health/health behaviour relationships. On the other hand, a moderating relationship indicates that a third variable directly influences the relationship between two other variables (Mackinnon & Luecken, 2008; Fairchild & Mackinnon, 2009). This implies that social capital directly impacts the relationship between SES and health and health behaviours. According to Buijs et al., (2016pg3), the *latter scenario is to be preferred by policymakers as it would allow them to employ for example community social capital as a health resource*. While Buijs claim a moderating role of social capital is preferred over a mediating role, the social capital framework for analysis proposed by Morgan (2010) suggests a mediating role of social capital in the relationship between SES and young people's health and health behaviours. This indicates that as to whether a moderating or mediating role is preferable by policymakers may depend on the purpose of the application of social capital. It may also depend on the ability of the specific social capital in question to either offer mediating and/or moderating roles against the effects of SES. Such academic debates hence warrant the need for

researchers to explore and compare all the mechanisms of social capital within diverse contexts to make appropriate claims as to what exact protective function and importance specific social capital domains/indicators can offer to policymakers and health promotion strategies.

Again, most of the existing research focuses on health, rather than the health behaviours of young people. A study by Veenstra (2000) into the psychosocial pathway of health inequalities found little evidence for the individual effects of social capital on self-rated health status and no evidence for a mediating mechanism. Nevertheless, according to Buijs et al. (2016), these findings need to be considered with restraint given some serious limitations such as a small sample size (n = 534) and a low response rate (40%). After a period of social capital research, Dahl (2010) conducted a similar study and hypothesised that individual social capital may mediate the effect of socioeconomic status on health. Nonetheless, the findings of the study did not substantiate this expectation for health outcomes including perceived health and enduring illness. On the other hand, findings from Lindström et al. (2001) assert the notion that social capital is a significant mediating link underlying the socioeconomic disparities in leisure-time physical activity and, eventually, cardiovascular diseases.

Moreover, few existing studies on social capital and health inequalities focused on outcomes in young people. A recent review on neighbourhood social capital and the gradient in adolescent health by Vyncke et al. (2013) found a total of eight studies, of which only two found evidence for a mediating social capital mechanism for mental health problems (Xue et al., 2005) and verbal ability and behavioural problems (Kohen et al., 2008) respectively. As the evidence for a mediating mechanism of social capital in the individual relationship between socioeconomic status and (child) health, is uncertain, the present study hypothesises that *the psychosocial mechanism of social*

capital may be either a mediating and/or moderating one. This is asserted by other studies that established a moderating social capital mechanism for internalising and externalising behavioural (Caughy et al., 2008) and antisocial behavioural problems (Odgers et al., 2009). In a study involving young children and adolescents, the evidence was found for a moderating effect of community social capital at the contextual level on adolescent perceived health (De Clercq et al., 2012). Elgar et al. (2010) also discovered evidence for a moderating effect of social capital at the individual level for several outcomes. These studies illustrated that social capital annulled SES effects on psychological symptoms and narrowed SES differences in somatic symptoms and risk behaviours (injuries and fighting). De Clercq et al. (2012) reported similar findings for community social capital at the contextual level. Buijs et al (2016) also found that the social gradient in life satisfaction was levelled when pupils reported high levels of perceived community social capital. This reflects a potential moderating effect of community social capital on health and health behaviours.

3.2.7 Summary and Research Gaps

The above review has revealed that globally, there are significant relationships between SES, social capital, health, and health behaviours. However, the relationship between SES and young people's health and health behaviours is under-researched in LMICs especially, in Ghana. Moreover, the effect of psychosocial social capital on young people's health and health behaviours has not been fully explored in LMICs and no empirical study was found for Ghanaian adolescents. This infers that there is an enormous research gap on the interplay among these four concepts concerning young people more particularly, from a LMIC perspective. Subsequently, less research and possibly initiatives have been implemented on tackling the social determinants of

adolescents' health and health behaviours in LMICs. Similarly, social approaches to health and health behaviours have not been highly acknowledged in both research and policy in some LMICs including Ghana.

Additionally, although the literature reveals that there is a psychosocial perspective to understanding the impact of SES on health and health behaviours, no empirical evidence was found in the Ghanaian context on the psychosocial effect of SES on health and health behaviours through psychosocial social capital. There has been an emerging approach in research to go beyond just the direct relationship between concepts to exploring the various mechanisms or pathways through which various factors exert their effects. This posits that exploring and understanding the psychosocial effect of socioeconomic status on health and health behaviours is very critical for explaining social gradients in population health and health behaviours and subsequently for advanced and effective policy and intervention recommendations in the LMIC context.

Various literature that has explored the interplay among SES, social capital, health, and health behaviours have also provided conflicting or inconsistent findings on how these concepts are related. For instance, while some studies find a significant relationship between SES and self-rated health, and SES and alcoholism of young people in some countries, findings from other countries do not present any significant relationship (Currie et al., 2012). There are also inconsistent findings on the association between SES and young people's health behaviours (Costa-Tutusaus et al., 2016; Inchley et al., 2016). This may likely be due to the contextual nature of SES, social capital, health status, and health behaviours. There is hence the need for regional and country-specific assessment of the interplay among these four identified concepts.

Moreover, most of the studies on health, have rather investigated the mediating

role of health behaviours in the relationship between SES and health status, or the mediating role of health behaviours in the relationship between social capital and health. This is probably because health behaviour is mainly examined as a pathway to health. Hence, not much study has been done on the effect of SES on health behaviours through psychosocial factors-social capital. Additionally, there have been inconsistent findings on the mechanism or underlying processes of social capital in the presence of SES. While some studies claim a mediating role, others claim a moderating role, while others report none. Irrespective of the type of mechanism, although a mediating and moderating role of social capital for health and health behaviour has been found in most high-income countries, not much evidence has been provided for young people in LMICs, particularly for Ghanaian young people. Therefore, whether social capital should be generally recommended to policymakers as a complement or main component in a policy strategy is difficult due to inadequate scientific evidence on the type of protective role social capital plays concerning Ghanaian young people's health and health behaviours.

Furthermore, despite controversies about the significance of the indicators of social capital to health and health behaviours, the significance of similar indicators of social capital to health and health behaviours remain consistent in the various reviewed studies. This evidence confirms the value and importance of exploring social capital not only for LMICs but for young people globally. This is because: (1) social capital has been shown to promote wellbeing, health, and health behaviours; (2) social capital can offer a theoretical foundation for investigating the effects of home, neighbourhood, peers, and school-based health and health behaviour promotion agendas (Morgan, 2011; Morgan et al., 2012); (3) social capital can offer a theoretical foundation for assessing the psychosocial effects of SES on health and health behaviour of young

people (Currie et al., 2004; Morgan, 2010:2011), and (4) social capital can be utilised as a complement in policies strategies to protect poor young people against risks and vulnerability from their environments such as poverty, deprivation and low SES (Jones et al., 2002; Emerson & Hatton, 2007; Elgar et al. 2010; Addae et al., 2020; Kühner et al., 2021).

Generally, studies on the psychosocial mechanism role of social capital in the relationship between SES and adolescents' health and health behaviour from an asset-based approach is scarce in the LMIC context especially in sub-Saharan Africa. This means that the notion of promoting psychosocial social capital as a potential health asset that can be built for empowering young people is not highly recognised in research and policy arenas in sub-Saharan Africa. Consequently, the social capital indicators specifically developed for young people as potential health assets for their well-being, health, and health behaviour promotion have not been highly explored in sub-Saharan Africa, exempting the studies by Addae (2020a:2020b) which also only focused on well-being dimensions of adolescents. There is, thus, the need for researchers to advocate social approaches and asset-based approaches to young people's health and health behaviours to stimulate research and policy in LMICs through evidence.

Another gap identified is that there has been generally, an extensive focus on only quantitative assessment of the role of psychosocial social capital in adolescents' health and health behaviours leading to scant qualitative evidence. While quantitative studies are important to quantitatively identify the directions and strengths of associations as well as mechanisms by which inequalities in health and health behaviours are established during adolescence, it does not offer the opportunity to identify the nuances in these findings that cannot be measured quantitatively.

Providing young people's voices on how social capital matters for their health and health behaviours will offer additional benefits to explaining the protective mechanisms of social capital in the relationship between SES and adolescents' health and health behaviours. This will consequently ensure a holistic health promotion policy and interventions for young people.

The significance of social capital to health and health behaviour, and the paucity of literature in the LMIC/ sub-Saharan Africa context especially Ghana, therefore, prompts the need for this present study. As the family, community, peers, and school contexts were also identified to have a strong influence on young people's health and health behaviours, this makes the home, community, peers, and school settings highly relevant contexts for studying social capital. This study is hence justified as an original study and the first to investigate how individual-level cognitive constructs (psychosocial) of social capital could promote health and positive health behaviours of young people in LMICs-Ghana from an *asset-based perspective* (health asset approach). All the above-stated findings and research gaps provide a foundation for this current study to make a substantial theoretical and applied contribution to the social capital literature. This study contributes to the academic debate by confirming what exactly is the psychosocial mechanisms of social capital against the effects of SES on school-aged adolescents' health and health behaviours. It does so by employing advanced mixed research methods that allow both quantitative and qualitative studies to be carried out utilising the *health asset approach*. This would consequently result in advanced research illustrations for other researchers in adolescent health in especially Ghana. It is expected that this study would not only offer knowledge to fill the literature/research gap but also contribute to policy proposals, health promotion strategies, health education programmes, and

interventions and practices for all stakeholders in young people's health, health behaviours, and overall development.

3.2 Theoretical Framework

3.2.1 Introduction

This study seeks to quantitatively examine the psychosocial mechanisms of social capital that underline the relationship between socioeconomic status and school-aged adolescents' health and health behaviours. It also aims to qualitatively explore adolescents' perspectives and experiences of how social capital acts as a 'protective health asset' and protects their health and health behaviours against socioeconomic effects. SES and social capital are both crucial social determinants of health that have been reported to be highly contextual by social context, demographic factors, and culture (Morgan, 2010:2011; Inchley et al., 2016). While SES and social capital can act as drivers of health inequalities, at the same time, they can act as protective resources that enable individuals to overcome life stresses. In most instances, however, SES is recognised as a potential life stressor causing social gradients in populations' health outcomes; whereby those with low SES generally experience poorer health outcomes than their counterparts. Social capital on the other hand is often portrayed to protect individuals against the social gradient in health caused by SES. This indicates social capital can empower or enhance adolescents' capabilities to build resilience and rise above life stresses including SES.

These characteristics of SES and social capital imply that to effectively disentangle the effects of SES and social capital on adolescents' outcomes, theories that address both the positive and negative dimensions of SES and social capital, social context, cultural, and demographic features as well as were designed with the intended focus on children and young people are required. Moreover, as social capital is

portrayed as a protective psychosocial resource, there is a need for a theory that addresses the psychosocial mechanisms or protective role of social capital while accounting for its multidimensionality and contextual features. More importantly, the theories employed must be versatile and capable to address the research design employed as well as explain the empirical findings from this study. Therefore, to effectively address all the research aims, proposed research design, and research findings, answer all the research questions, as well as address all the contextual features of SES and social capital regarding adolescents, this study was approached from a social-ecological and an asset-based approaches to researching health and health behaviours. This study was hence founded on a theoretical framework developed from the combination of Bronfenbrenner and Morris' bioecological theory of human development (Bronfenbrenner & Morris, 2006) and the "health asset approach'' proposed by Morgan (2010); theories designed with the focus of promoting young people's development, health, and health behaviours (Morgan, 2010).

Generally, this section elaborates on the bioecological theory of human development and the health asset approach, including their contributions for researchers to develop a robust theoretical framework necessary to effectively develop practical social and public health policy and intervention for safeguarding the health and health behaviours of school-aged adolescents against socioeconomic stressors.

3.2.2 The Bioecological Theory of Development

The fundamental resources for health include mainly income, shelter, and food. Though health improvement requires a solid ground in these necessities, a supportive environment and offering prospects for making choices among health services, lifestyles, and behaviours that increase health are as well prerequisites (WHO, 1984). Considering this complex connection between people and their environment, the study

of health and health behaviours hence necessitates a need for a socio-ecological approach.

The bioecological theory of development is a theoretical model of gene-environment interactions in human development. This model, first proposed by Urie Bronfenbrenner and Stephen J. Ceci in 1994 is an expansion of Bronfenbrenner's original theoretical model of human development, called ecological system theory (Bronfenbrenner & Ceci, 1994). Bronfenbrenner developed the bioecological model after realising that the 'individual' was overlooked in other theories of human development, which were generally focused on the context of development (e.g., the environment). The bioecological theory of development was chosen for this thesis's theoretical framework because of its emphasis on the role of individuals in their development. In this thesis, it is recognised that adolescents are social agents capable of influencing their development and this can be achieved by equipping them with the needed psychosocial resources - social capital. Thus, the thesis advocates that although contexts have crucial influences on adolescents' development, by empowering adolescents, they can also influence and change the direction of their developmental outcomes. Thus, adolescents can also play a crucial role in overcoming any life stressors that are introduced by their contexts and achieving positive health and health behaviours. For instance, low SES and child poverty are life stressors often introduced by the nuclear family into which children are born. However, due to individual traits, some adolescents can take charge of their development to break generational poverty in the future by making good use of the capabilities and opportunities made available to them by other people from beyond their nuclear family context. Similarly, children can overcome life stressors including the effects of low SES and achieve positive health and health behaviours if they make adequate use of for example, psychosocial

social capital provided by their family members, schoolteachers, peers, and community members. Therefore, in this thesis, two of the building blocks of the bioecological model of development are important to the thesis' discussion on the importance of *context* and *person*.

3.2.2.1 Context

In the bioecological theory of development, just like the ecological system theory, environmental contexts are conceptualised by four ecological systems, microsystem (e.g., family, peers, school), mesosystem (e.g., parent-teacher relationship), exosystem (e.g., social services, communities, neighbours), and macrosystem (attitudes and ideologies of culture) (Bronfenbrenner, 1979). It is believed that all these contexts have essential positions to play in shaping various trajectories of adolescents' developmental outcomes as there is constant interaction among them. The present study highlights the role of the microsystem (i.e., family, peers, and school) and exosystem (i.e., local community) in the health and health behaviours of adolescents. These contexts were chosen based on their immediate proximity to the adolescent child compared to other contexts. Immediate contexts tend to have more impact and influence on the children's development than other external contexts (Bronfenbrenner & Morris, 2006). Within the microsystem context, exchanges between individuals and their parents establish the basis of the type and quality of future relationships (Bronfenbrenner, 1979; O'Brien & Bowles, 2013); and the individual including their 'personal' characteristics interacts primarily with the family and with various people and systems such as friends, neighbours, schools, etc. These interactions within the microsystem have the deepest direct impact on a child's overall psychosocial development, as they impact the child's interaction with other different systems in and beyond the microsystem (Bronfenbrenner, 1979). Thus, interrelations among the

numerous factors in the ecological systems exist either directly or indirectly. For adolescents, these interrelated interactions may occur with their family, teachers, and peers within and beyond the school setting (Stivaros, 2007).

Within the microsystem, different systems interrelate and such behaviors in one system will be affected by and can affect those in other systems (Bronfenbrenner 1979; Stivaros 2007). Assuming in the family context, if parents deny the adolescent social support, a sense of belonging, autonomy, control, and emotional bonds with the adolescent, then the adolescent would not be empowered to efficiently socialise within the school, community, and peer contexts. Findings show that students who experience poor family relationships are more likely to exhibit low school engagement and a low sense of belonging (OECD, 2017) which can consequently cause poor health and risky health behaviours. Equally, if adolescents are deprived of autonomy support in schools, their relationships and socialisation with peers and classmates in school would be impacted. Creating healthy peer relationships in schools can thus stimulate students' connectedness to other students and teachers and consequently result in positive outcomes for students (Baker & Maupin 2009). This will consequently result in positive or health-promoting behaviours and hence prevent risks such as bullying, substance use, risky sexual behaviours, alcohol intake, etc.

The exosystem signifies environments that the child may not directly interact with but impact the child's development indirectly. It depicts how systems in the microsystem such as family/parents and school affect children directly and indirectly through their imposed decisions (Bronfenbrenner, 1977). In the exosystem, children typically do not contribute directly to decision-making (Stivaros, 2007). Therefore, the exosystem impacts children's development through the active contribution of the significant people in a children's life, such as family members, peers, teachers, etc., or

through decisions made by social institutions, such as the local community which can ultimately influence the circumstances of children's family, school, and community life (Bronfenbrenner, 1977; Stivaros, 2007). While there are diverse systems in the exosystem whose decision-making can directly or indirectly impact adolescents, this thesis accentuates the *community* as a system whose characteristics can affect school-aged adolescents' outcomes indirectly. For example, children commonly lack autonomy in communal decision-making, and decisions made by adults concerning schools in the community can directly or indirectly alter children's health and health behaviours in school. Also, since schools are in communities, the communities in which adolescents attend school would have to offer conducive environments such as safety and a sense of belonging for the students to live in and happily achieve their academic prospects.

It is, thus, necessary that the role of all the systems in the microsystem and the exosystem especially the *community* in adolescents' health and health behaviours be instantaneously examined to identify their independent and combined effects on the development of adolescents. In this thesis, therefore, the independent and combined role of family, school, peers, and the community in the health and health behaviours of school-aged adolescents are simultaneously examined quantitatively and explored qualitatively where appropriate.

3.2.2.2 Person

The bioecological theory again proposed a new method of conducting research by putting emphasis on the role of individual characteristics in their development rather than focusing too much on the role of the environment, thus, accentuating the 'person' in the context of development (Bronfenbrenner & Morris, 1998; Darling, 2007). In the bioecological theory, Bronfenbrenner and Morris (1998) identified three personal

characteristics that can meaningfully influence an individual's interactions with members of the microsystem. First, they classified characteristics such as age, gender, or physical appearance as *demand characteristics*, which stimulate individuals' involvement in developmental activities and interactions (Tudge et al., 2009). This proposition asserts the various findings that have revealed variations in health and health behaviours by diverse personal characteristics including gender, age, etc. (Currie et al., 2012; Inchley et al., 2016). Secondly, intangible resources such as mental and emotional resources (e.g., past experiences, intelligence, and skills) and material resources (e.g., access to housing, education, sanitation, nutrition, etc.) were classed as *resource characteristics* (Bronfenbrenner & Morris, 1998:2006). The *demand* and *resource* characteristics comprise social structures including gender, age cohort, educational level, socioeconomic status, etc. that interact with indicators of adolescents' development involving health and health behaviours by shaping individual's opportunities to access and amass resources within their environments (Bronfenbrenner & Morris, 2006; Ben-Arieh & Frones, 2011). Thus, such structures can influence the health-related decision-making and choices made by adolescents. For instance, socioeconomic status has been continuously found to establish inequalities in health and health behaviours such that individuals from high socioeconomic households often have better health outcomes and positive health behaviours than their counterparts from low socioeconomic households (Levin & Currie, 2009; Richter t al., 2009; Fismen et al., 2012; Currie et al., 2012; Inchley et al., 2016; Vukojevic et al., 2017).

The last 'personal characteristic' is the *force characteristic* which is associated with differences in motivation, persistence, and temperament. Bronfenbrenner and Morris (1998: 2006) reflected that, while individuals may have equivalent access to

resources, their development may be manipulated by diverse trajectories because of characteristics such as the tenacity to succeed and persevere through challenging circumstances. The structural and force characteristics also interact to wield their collective impacts on developmental outcomes. For example, amidst SES, an individual's level of motivation or persistence will define the strength and direction of the impact of SES on their outcomes. That is an interaction between one's structural and force characteristics may result in either a direct effect, mediating and or a moderating mechanism occurring.

The *force characteristics* of an individual as portrayed in the bioecological theory of human development portrays *motivation* as a resource that can embolden people to overcome life and environmental stressors. Conspicuously, two of human strongest motivations and psychological needs suggested to essentially empower people to engage in their environments are *autonomy* and *connectedness* which form key facets of social capital (Ryan & Patrick, 2001; Deci & Ryan, 2000; Putman & Robert, 2000). The bioecological theory of development, therefore, affirms the conception that psychosocial resources or dimensions of social capital resultant from *connectedness* or social relationships can augment adolescents' capabilities to be involved in their environments and amass health resources/assets desired for their health promotion. The features of an individual's force characteristics hence comprise features of psychosocial social capital. In this thesis, therefore, autonomy and control, a sense of belonging, social support, and peer-based social network are proposed as *force characteristics* of adolescents that can be built through their constant interaction with agents within their social contexts for health promotion. Therefore, identifying enabling and protective environmental contexts that support the building of adolescents' *force characteristics, thus* their needs for autonomy, control, belonging,

social support and network is a responsibility of researchers. This is to offer significant evidence for policymakers and NGOs, and stakeholders in adolescents' health to provide social protection and interventions that support the capacity of, for example, family, schools, community, and peers in building adolescents' force characteristics/psychosocial social capital needed to function as their health assets.

Overall, the bioecological theory of development as employed in this thesis accentuates the role of adolescent *context* and *personal characteristics* to independently as well as jointly interact with each other to affect the developmental outcomes of adolescents. It is worth noting that it is only through social relationships and interactions between adolescents and agents within their social contexts that these conditions proposed by the theory would be met. This theory hence hints at the role of social capital derived from adolescents' social contexts in promoting developmental outcomes. Also, psychosocial elements of social capital can act as force characteristics of individuals for resilience building and protect them against life and environmental stressors. Thus, proposing psychosocial social capital/ force characteristics as potential health assets for health promotion as proposed in this thesis. Again, while the bioecological theory of development does not explicitly propose mediating and or moderating roles of contexts and individual characteristics, it indicates a potential psychosocial mechanism role that takes place when contexts and structural and personal characteristics of individuals interact. To support these assumptions derived from studying the bioecological theory, the health asset approach is also employed to buttress the study's theoretical assumptions and framework as detailed in the following sections.

3.2.3 Health Asset Approaches to Health and Health Behaviours

3.2.3.1 Introduction

As discussed in the previous sessions, in addition to the bioecological theory of human development, this thesis employed the health asset approach to developing a well justifiable theoretical framework upon which both the qualitative and quantitative studies were founded. The health asset approach falls under the concept of asset-based approaches to health which has gained high recognition in especially recent public health applications. A comprehensive review by Van Bortel et al., (2019) showed that despite the various definitions used concerning global literature on health assets, the most frequently cited definition of *health assets* was the one provided by Morgan and Ziglio (2007). Therefore, though different models for the application of asset-based approaches exist, this thesis focuses on the asset-based model and health asset approach definitions presented by Morgan and Ziglo (2007). While the asset model is not a novel concept or approach, the asset model developed by Morgan and Ziglo (2007) mainly seeks to add worth to other existing concepts and ideas by combining them in a manner that promotes a further systematic approach to amassing and utilising knowledge for health solutions. Health assets have been researched in diverse settings, including community and care facilities, largely in Western countries such as the UK, the USA, Spain, and Norway (Morgan & Haglund, 2009; Morgan et al., 2012; Hopkins & Rippon, 2015; Von Hippel, 2018; Van Bortel et al., 2019). In a review of existing literature, Van Bortel et al., (2019) attribute the skew in geographical context to the fact that the term ‘asset’ does not translate sufficiently well to be used in some sociocultural and political contexts, and where research has been conducted in the African region, these studies have largely focused on religious health assets. The

review also shows that not much research has been done on the potential causal relationships between assets and behaviours, specific health assets and any moderating factors, and the linkages and relationships existing between different assets. Van Bortel et al., (2019) hence call for the need for further research. The complex and inconsistent findings on the relationship between various dimensions of social capital and health and health behaviours from different studies that have employed diverse theories call for a test of what outcome would be achieved when social capital is applied as a health resource from a health asset perspective in the LMIC context.

The application of the health asset approach by Morgan and Ziglo (2007) to researching the health and health behaviours of adolescents concerning diverse social contexts in Ghana is, therefore, timely and a necessity to promote asset-based approaches to both social and public health in especially, the sub-Saharan African context. Employing the *health asset approach* will also allow the examination of health asset mechanisms and, thus, provide evidence on the potential causal relationships between diverse assets (psychosocial social capital indicators) and health and health behaviours, how these assets relate to each other, their mediating and moderating mechanisms as well as the linkages between these assets and environmental stressors. The following sections first define health assets and elaborate on how social capital is proposed to be translated as a health asset for researching young people's health and health behaviours (Morgan, 2011; Morgan et al., 2012).

3.3.3.2 Defining 'Health Assets'

Health assets according to The WHO European Office for Investment for Health Development refer to *the available resources that individuals and communities possess, which safeguard against harmful health outcomes and/or foster health status*.

These comprise social, fiscal, environmental, or personal resources such as SES, helpful social networks, etc. (Harrison et al., 2004; Morgan & Ziglo, 2007). Morgan and Ziglo also define a health asset *as any factor (or resource) which enhances the ability of individuals, groups, communities, populations, social systems and /or institutions to maintain and sustain health and well-being and to help to reduce health inequities* (Morgan & Ziglo, 2007pg18). Again, like material and physical resources, health asset implies mental, social, and other resources that aid to create and sustain health and well-being (Hopkins & Rippon, 2015). These assets can function at the individual, group, and community level as protective (or promoting) resources for buffering against stressors of life. As proposed by WHO (1984), Morgan and Ziglo assert that health-promoting (or protecting) assets can be obtained from diverse aspects of health determinants including one's genetic components, social and environmental conditions, behavioural preferences, etc. According to Morgan and Ziglo (2010pg18), an array of health assets would at least comprise:

- At the *individual level:* social expertise, resilience abilities, devotion to learning, good values, self-esteem, and perceived purpose.
- At the *community level*: supportive family and friendship networks, community solidity, harmony, etc.
- At the *organisational or institutional level*: environmental assets that are essential for fostering physical, mental, and social health, engagement prospects, boosting equity, etc.

The illustrations above depict the importance of family, peers, community, and institutions such as schools in providing health assets for promoting the health outcomes of young people. For instance, at the individual level, for young people, an

asset approach to health can include prevention pursuits that emphasise protective resources which enhance resilience to impede health risk behaviours. In such cases, individual force characteristics such as a sense of belonging, autonomy, and control, positive peer relationship and social support, and social networks of adolescents that have been confirmed to help build resilience and empower adolescents to attain positive health and health behaviour outcomes could be acknowledged as protective health assets as proposed in this thesis. At the community level, community coherence comprising several solid and positive interconnecting networks could be recognised as a health asset capable of promoting health despite any disadvantages in that community. This notion suggests the protective mechanism functions of community social capital for health. Finally, at the institutional level, institutions including schools have crucial roles to play in empowering young people to build health assets at both the individual and community level which can be achieved through the implementation of appropriate policies and interventions that for instance sustains society's social fabric.

3.2.3.4 Social Capital as a Health Asset for Young People – A Health Asset Approach

Knowledge and investment in young people's health, health behaviours, health-related experiences and attitudes, and the factors that influence them is critical for informing the development of effective health education and national and school health promotion policy, intervention, and social protection programs and practice. It is also crucial for sustaining every nation as the backbone of every nation rest on its future generations, children, and adolescents. The review of the literature and theories have already informed us adequately about the many factors that can impact adolescents' abilities to overcome different stressors that they experience during adolescence.

These stressors or factors can arise from their genetic compositions, their family, their environment (particularly school and communities), and life events (Morgan, 2011). For school-aged adolescents particularly, adolescence represents a particularly sensitive period in the life of especially young students. This period presents many pressures and challenges including growing academic expectations, changing social relationships with teachers and peers, and physical and emotional changes associated with maturation that can critically influence students' development (Inchley et al., 2016). The question is, therefore, *how can they be provided with the optimum conditions to be able to overcome life stressors?*

The concept of social capital as a potential health asset for helping young people especially adolescents' transit through adolescence to adulthood successfully and healthily has gained a reputation in research and the policymaking debates on young people in recent years (Morgan, 2010; Schmeid &Tully, 2009). This reputation has developed from a long practice in sociology and interdisciplinary study areas that have recognised patterns in human relationships and connections with social commonalities. Social capital has been identified as one of the critical health assets that can be utilised effectively to protect the health and developmental outcomes of young people (Morgan, 2010; Morgan et al., 2012). While several definitions of social capital exist, regarding young people, social capital can be defined based on the common idea of *the interactions between members that enable the creation and preservation of this valuable social resource, and the significance of positive social networks of diverse types and amounts that promote social development and wellbeing between diverse groups and societies* (Morgan, 2011; Addae, 2020a). The recent literature from public health research on social capital for young people defines social capital from the perspective of *health asset*, which is assessed through social

interaction to promote health and health behaviours of young people (Morgan, 2010; Morgan et al., 2012; GCPH, 2013). As already explained, *health asset* offer empowerment to preserve and support health and wellbeing (Morgan & Ziglio, 2007). Thus, health assets can be attained by young people from members within their social environments to promote their health and health behaviours. Young people can maximise health assets thereby abating risks to their health and health behaviours (Ben-Arieh, 2007; Morgan et al., 2012; UNICEF, 2017).

The asset approach seeks to assess social resources that empower young people to access and engage in diverse networks to augment their prospects for well-being, health, and health behaviours. It also aims to gain insight into how the importance of different assets varies; the value of amassing them and their constancy across diverse social and cultural contexts (Morgan et al., 2012). Existing literature shows that providing opportunities for young people to access and accumulate protective health assets provides a high possibility for them to achieve positive health and health behaviours (Morgan, 2010; GCPH, 2013; Inchley et al., 2016). Similarly, employing the asset approach means that young people should be provided with social capital at an early age to enable them to accumulate the resources needed to build their capacity to access and engage in various networks for positive health and positive health behaviour promotions (Morgan, 2010; Morgan & Haglund, 2009). Moreover, the health asset approach seeks active youth involvement, promoting a sense of belonging and feelings of autonomy and control to empower young people with credence and disposition to engage in various kinds of networks (Morgan & Haglund, 2009). This may consequently enhance their active community engagement, satisfying the collective perspective of social capital by Putnam (1995) (Morgan et al., 2012).

The asset approach also concedes the possible downside of social capital for

young people, which is, young people overly conforming to group norms, and losing their autonomy and control in likely exchange for a sense of belonging. For young people, such negative aspects would be from engaging in risk behaviours often influenced by association with networks. The health asset approach, therefore, principally promotes feelings of autonomy and control to elevate young people's self-esteem, self-efficacy, and active participation in various networks within their societies. This empowerment can enable them to resist potential bad decisions about their health and health behaviours made by others within their social networks and to participate in development processes concerning their own lives (Holland, 2009; Morgan et al., 2012; Inchley et al., 2016).

These recent pieces of literature on young people's social capital also emphasise the need to consider the context (age, gender, ethnicity, religion, culture, environment-family, school, community, etc.) in translating social capital as health assets in research regarding the health and wellbeing of young people (Morgan, 2011; Morgan et al., 2012). This is because distinct associations between health and different contexts within which social networks are formed and function have been found (Morrow, 1999:2001). However, the home context has been found to have the strongest association with young peoples' health and well-being outcomes than these same indicators in other contexts such as the school and the community level (Morrow, 1999:2001; Morgan et al., 2012; Addae, 2020a; Kühner et al., 2020). The microsystem especially the family context can hence be seen as the primary builder of psychosocial health assets for adolescents, with the exosystem also offering crucial psychosocial health assets for young people in their communities. Denoting social capital from the perspective of health assets; serves a similar purpose as other social capital theories which all denote social capital as valuable assets assessed through social networks and

relationships to benefit an individual and society (Bourdieu, 1986; Coleman, 1988; Putnam, 2000). The asset approach, moreover, ensures that components of social capital from the perspective of Coleman, Bourdieu, and Putnam are combined and translated into wellbeing, health, and health behaviour research of young people by adjusting for the limitations in the individual "traditional'' conceptualisation of social capital.

3.3 Conceptual Framework

3.3.1 Conceptualising Social Capital for Young People

According to Morgan (2011), recent frameworks for examining the relationship between young people's social capital and well-being, health, and health behaviours have originated from the work of Morrow (1999:2001). Morrow (1999:2001) carried out a qualitative study on social capital and young people which offered the basis for researchers' understanding of the value of the concept for young people. Morrow queried the feasibility of utilising Putnam's conceptualisation of social capital for a younger population, therefore he merged Putnam and Bourdieu's work (1983:1986) to build a framework for assessing how diverse concepts of social capital correlate to young people's health.

Subsequently, in 2002, Morrow's qualitative study presented to the Social Inequalities Focus Group (SIFG)- Health Behaviour of School-aged Children (HBSC) by Morgan in 1999 stimulated the creation of the original dedicated optional package of questions to offer evidence on the link between social capital and health by the WHO-HBSC. Innovative concepts and descriptions of social capital for young people were subsequently established utilising Morrow's work. This was then modified by the SIFG to assist in the discovery of a suitable set of questions essential for measuring

perceived family, school, and community social capital of young people. The English 2002 HBSC survey ten utilised the optional package and supplemented it with various social capital indicators (Morgan, 2011). An analytical framework established on the questionnaire was finally built for the HBSC dataset to commence empirical research into the relations between social capital and young people's health as shown in Figure 3.2.

The social capital indicators for the framework were classified into three broad sub-domains and plausible and fitting questions were discovered across family, school, neighbourhood, and peers' contexts. The social capital domains discovered were: (1) sense of belonging; (2) autonomy and control and (3) social networking (Morgan, 2011). Morgan (2010) included social support as a domain/indicator of social capital in his social capital framework developed based on the above discoveries in the HBSC survey.

Morgan (2010:2011) and Morgan et al. (2012) have subsequently used the framework (Figure 3.1) to offer evidence on relations between adolescents' social capital and well-being, health, and health behaviours while accounting for socioeconomic status.

These domains of social capital (sense of belonging, autonomy and control, and social support) reflect psychosocial (psychological and social) dimensions of social capital which represent one's psychological and social well-being. In this study, adolescents' level of sense of belonging to family, school, and community are measured; their level of family and school autonomy support, family social support, and family control are also measured. Engagement or belonging to social networks represents the level of one's social well-being in terms of the ability to socialise with others. During adolescence, adolescents spend more time with peers/friends than with

family and their peers are a special form of a network from which social capital can be accrued for their benefit. In this thesis, the social network of adolescents in the peer context was hence measured as an indicator of social capital.

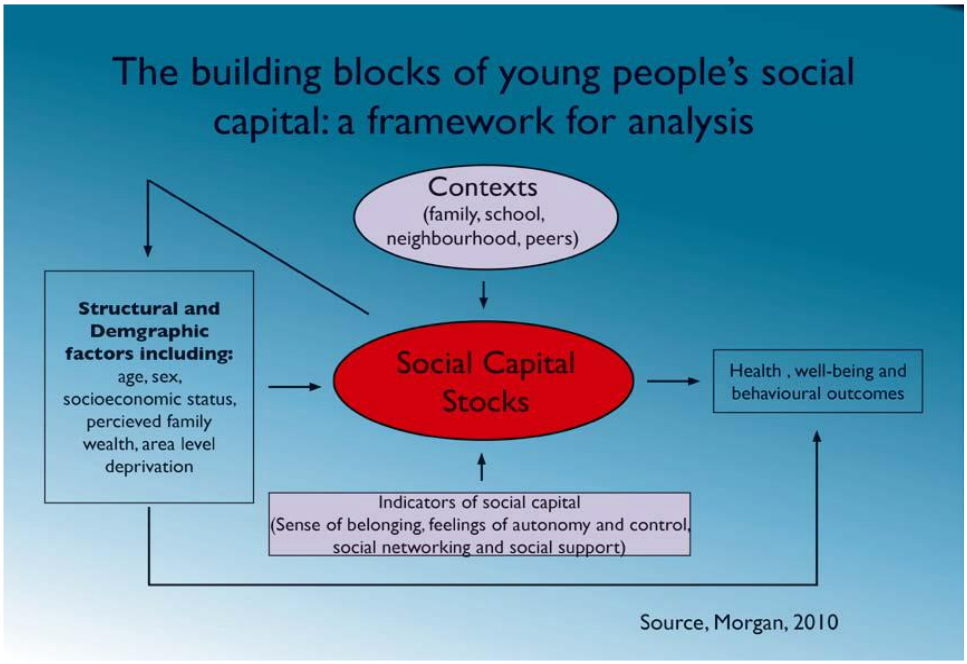

Figure 3.2: Social capital analytical framework for young people (Morgan, 2011).

3.3.2 Conceptualising the Relationships Among Socioeconomic Status, Psychosocial Social Capital, Health, and Health Behaviours

The present study seeks to offer evidence on the potential for social capital to provide protective psychosocial mechanisms against the effects of SES on adolescents' health and health behaviours from socioecological and asset-based approaches. It does so by integrating two theoretical perspectives (a bioecological theory of development and a health asset approach) to mainly examine the mediating and/or moderating role of psychosocial social capital in the relationship between SES and school-aged adolescents' health and health behaviours, with a focus on identifying the specific and

combined effects of social capital from their social contexts- the family, school, community, and peers (Figure 3.3).

To the best of the author's knowledge, the combination of these theoretical considerations has not been previously used to test hypotheses about adolescents' SES, psychosocial social capital, health, and health behaviours in the sub-Saharan African region. This study, thus, seeks to provide more insight into an advanced understanding of disentangling the complexities that exist among environmental stressors, social contexts, health assets, and the developmental outcomes of young people in both sub-Saharan Africa and the LMIC context.

Employing the bioecological model of development and the health asset approach in the same study's theoretical foundation may provide a conceptual balance against their individual weaknesses. For instance, while the bioecological theory of development emphasises the role of context and personal characteristics in children's development, it does not necessarily propose personal characteristics as potential health assets that can be nurtured as psychosocial social capital in social relationships from the perspectives of public health and social policy spheres. Acknowledging especially the *force characteristics* as health assets in the public health arena can potentially offer more support to the bioecological theory's claim on the role of individual force characteristics such as motivation (e.g., autonomy and control) in enhancing young people's ability to overcome life stressors. Thus, proposing that *force characteristics* also provide potential mechanisms or processes by which environmental stressors affect especially young people's developmental outcomes. Employing both theories would also provide advanced discourse and interpretation of the thesis' research findings. For instance, whereas the bioecological theory appears to focus on the role of structural/demographic and individual innate characteristics

(force characteristics) available to them, the health asset focuses on the benefits and assets that can be derived through relationships and interactions between the individual and the context which best support the concept of social capital. It also acknowledges that these innate/force characteristics can be built and nurtured and accumulated by young people from the early stage of their lives.

Overall, while the bioecological theory of development is often employed in studies to depict a direct effect of context and individual characteristics on developmental outcomes, the health asset approach focuses more on the protective role of health assets and as such proposes a mediating and or moderating effect of health assets on young people's developmental outcomes as shown in Figure 3.2 (Morgan, 2010). Both theories, therefore, help to achieve the aim of this study through both qualitative and quantitative research methods. Thus, at a certain point in time, each theory would play more role in its support to achieving the objectives for either the quantitative or the qualitative study. For example, the bioecological theory is very convenient for qualitatively exploring the general role of contexts in adolescents' developmental outcomes since it does not focus specifically on social capital, while the health asset would be more convenient for exploring adolescents' perspectives and experiences related to social capital and how social capital protects their health and health behaviours against life stressors as was done in this study.

As explained earlier in this thesis, this study focuses more on the psychosocial dimensions of social capital that were specifically developed and tested as potential health assets for young people especially adolescents' well-being, health, and health behaviours as shown in Figure 3.2 (Morgan, 2010:2011). Evidence that these health assets especially family, school, and community sense of belonging, family social support, as well as family, and school autonomy support and family control can protect

the well-being, health and health behaviours of adolescents, especially against the effects of SES by offering mediating and moderating mechanisms have been provided from different countries including Ghana (Morgan & Haglund, 2009; Morgan, 2010; Morgan et al., 2012; Addae, 2020a; Kühner et al., 2021). Most of the evidence on the protective role of these health assets regarding the health and health behaviours of adolescents has however mainly come from the high-income countries.

As depicted by the notions of the asset-based model, the health asset approach, and the bioecological theory of development, all recognises the role of psychosocial social capital in the family (family sense of belonging (FSB), family social support (FSS), family autonomy support (FAS), and family control (FC)), school (school sense of belonging (SSB) and school autonomy support (SAS)), community (community sense of belonging (CSB)) and peers contexts (peer-based social network (PSN)) as well as demographic determinants in influencing the health and health behaviours of school-aged adolescents in the presence of structural factors (socioeconomic status). Regarding the health dimensions, it is proposed that health assets can protect adolescents' health status, self-confidence, and experiences of multiple psychosomatic symptoms. Regarding health behaviours, this thesis focuses on health-promoting behaviour (physical activity) and experiences of multiple health risk behaviours. The potential interrelation/interplay among these diverse variables consequently results in both direct and indirect pathways of socioeconomic status' effects on the health and health behaviours of school-aged adolescents as depicted in the theoretical/conceptual framework in Figure 3.3. This theoretical/conceptual framework also guides the key research questions and objectives of the qualitative study. Thus, this study would qualitatively aim to identify from adolescents' perspectives and experiences how the theoretical framework functions in real life.

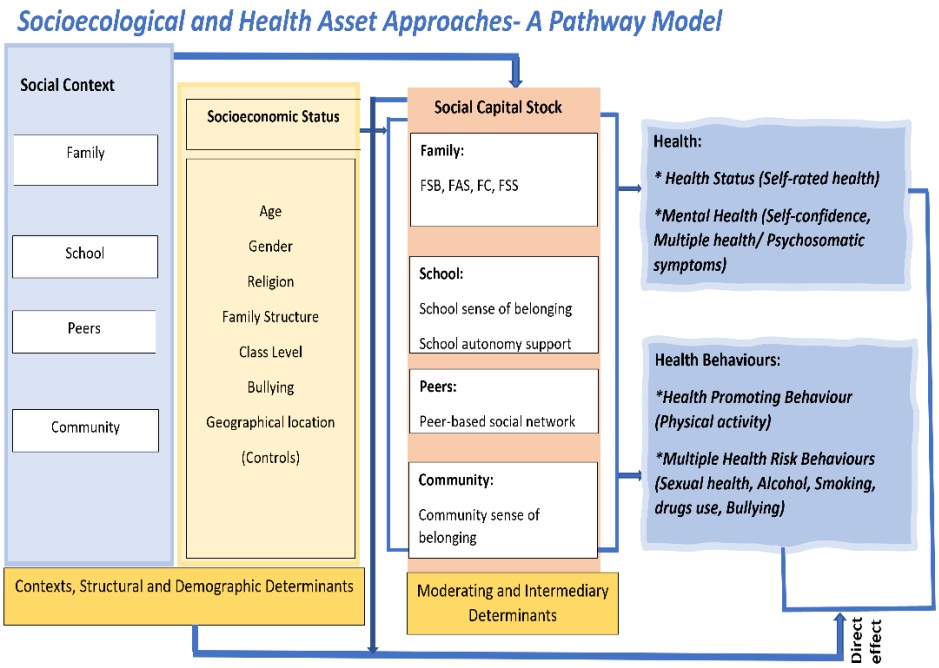

Figure 3.3. Author's construct (2021). Theoretical Framework

3.3.3 Summary for Theoretical and Conceptual Framework and Hypotheses

Based on the bioecological theory and the concepts of social capital, economic resources obtained through social relationships such as material affluence are conceptualised as a measure of adolescents' SES that can be utilised to promote health and health behaviours. Structural/demographic factors such as age, gender, religion, geographical location, etc. are employed as controlling variables as according to the bioecological theory, they have a direct influence on an individual's developmental outcomes. Also, force characteristics spanning motivations such as autonomy and control are classified as potential social capital, hence potential health assets.

The potential health assets (psychosocial social capital indicators) employed in this study were conceptualised and developed by Morgan (2010) based on notions of existing social capital theories, asset-based models, and health asset approaches. The overall notion is that psychosocial social capital for young people can promote positive

health and health-promoting behaviours and reduce health risk behaviours. More importantly, these psychosocial social capital indicators can protect health and health behaviours against environmental stressors by empowering young people with resilience in times of adversity such as poverty and low SES.

Therefore, family, community, and school sense of belonging are conceptualised as bonding and cognitive constructs of social capital accrued through social reciprocity exchanges within the microsystem and exosystem of adolescents' contexts that can protect the health and health behaviours of adolescents against SES's effects. Also, family and school autonomy support are accrued through the provision of information and family and school norms which can positively influence adolescents' health and health behaviours (Morgan, 2010:11; Morgan & Haglund, 2009). A sense of belonging in the family context denotes Coleman's early definitions of social capital acknowledging the social and interpersonal facets of family life. The impression is that adolescents with a high sense of belonging with their family, school, and community are more likely to form good relationships with members within these contexts and can access psychosocial health assets for their health and health behaviours promotion (Morgan, 2011; OECD, 2017). The idea of autonomy and control is that when adolescents have opportunities to participate in decision making concerning their well-being, they are more likely to be empowered to reject decisions that negatively impact their well-being, and where existing from a bad network especially family is not an option; they are empowered to actively seek social support and coping strategies from their external networks to enhance their well-being. Family social support and belonging to positive peer-based social networks can also provide crucial health assets to positively promote adolescents' health and health-promoting behaviours while reducing health risk behaviours.

All these health assets, therefore, equip school-aged adolescents with the empowerment to play an active role in their developmental outcomes including health and health behaviours. Empowering adolescents can hence provide the bridge between them, and their society as proposed by Putnam's social capital theory, which promotes the facets of social life, networks, norms, and trust (Morgan, 2011) and through this positively enhances positive health and health behaviours. With reference to Coleman (1988), family *control* is perceived as a negative aspect of family social capital that can arise when adolescents have an overly high level of bonding capital and overly conform to norms within their family. This consequently diminishes adolescents' intrinsic motivation to engage in their environment and to self-develop thereby negatively affecting their health and health behaviours.

Based on assumptions proposed by the bioecological theory of development and the health asset approach, this study specifically seeks to examine the direct relationships between SES and health and health behaviours as well as the direct relationship between social capital and the health and health behaviours of school-aged adolescents. The following hypotheses are hence proposed for the direct relationships between SES, social capital, and health and health behaviour outcomes:

1. Adolescents' Socioeconomic Status Hypothesis:

(a-c). Socioeconomic status would positively predict self-rated health and self-confidence but negatively predict experiences of multiple psychosomatic symptoms respectively.

(d-e). Socioeconomic status would positively predict physical activity but negatively predict experiences of multiple health risk behaviours respectively.

2. Adolescents' Family Sense of Belonging (FSB) Hypothesis:

(a-c). Family sense of belonging would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). Family sense of belonging would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

3. Adolescent's School Sense of Belonging (SSB) Hypothesis:

(a-c). School sense of belonging would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). School sense of belonging would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

4. **Community Sense of Belonging (SSB) Hypothesis:**

(a-c). Community sense of belonging would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). Community sense of belonging would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

5. Family Social Support Hypothesis:

(a-c). Family social support would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). Family social support would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

6. Family Autonomy Support Hypothesis:

(a-c). Family autonomy support would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). Family autonomy support would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

7. School Autonomy Support hypothesis:

(a-c). School autonomy support would positively predict self-rated health and self-confidence but negatively predict multiple psychosomatic symptoms respectively.

(d-e). School autonomy support would positively predict physical activity but negatively predict multiple health risk behaviours respectively.

8. Family Control Hypothesis:

(a-c). Family control would negatively predict self-rated health and self-confidence but positively predict multiple psychosomatic symptoms respectively.

(d-e). Family control would negatively predict physical activity but positively predict multiple health risk behaviours respectively.

9. Peer-Based Social Network

(a-e). Number of close friends would predict self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

Also, based on the health asset approach, mediating effects of psychosocial social capital are proposed in the relationship between SES and health and health behaviours. The following mediating hypotheses are proposed:

1A. Family Sense of Belonging (FSB) Hypothesis:

(a-e). Family sense of belonging would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

2A. School Sense of Belonging (SSB) Hypothesis:

(a-e). School sense of belonging would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

3A. Community Sense of Belonging (SSB) Hypothesis:

(a-e). Community sense of belonging would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

4A. Family Social Support Hypothesis:

(a-e). Family social support would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

5A. Family Autonomy Support Hypothesis:

(a-e). Family autonomy support would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

6A. School Autonomy Support Hypothesis

(a-e). School autonomy support would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

7A. Family Control Hypothesis:

(a-e). Family control would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

8A. Peer-Based Social Network Hypothesis:

(a-e). Number of friends would mediate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

Based on the above hypotheses, the hypothesised models for examining the direct and mediating effect of potential health assets are shown in Figure 3.5 and Figure 3.6.

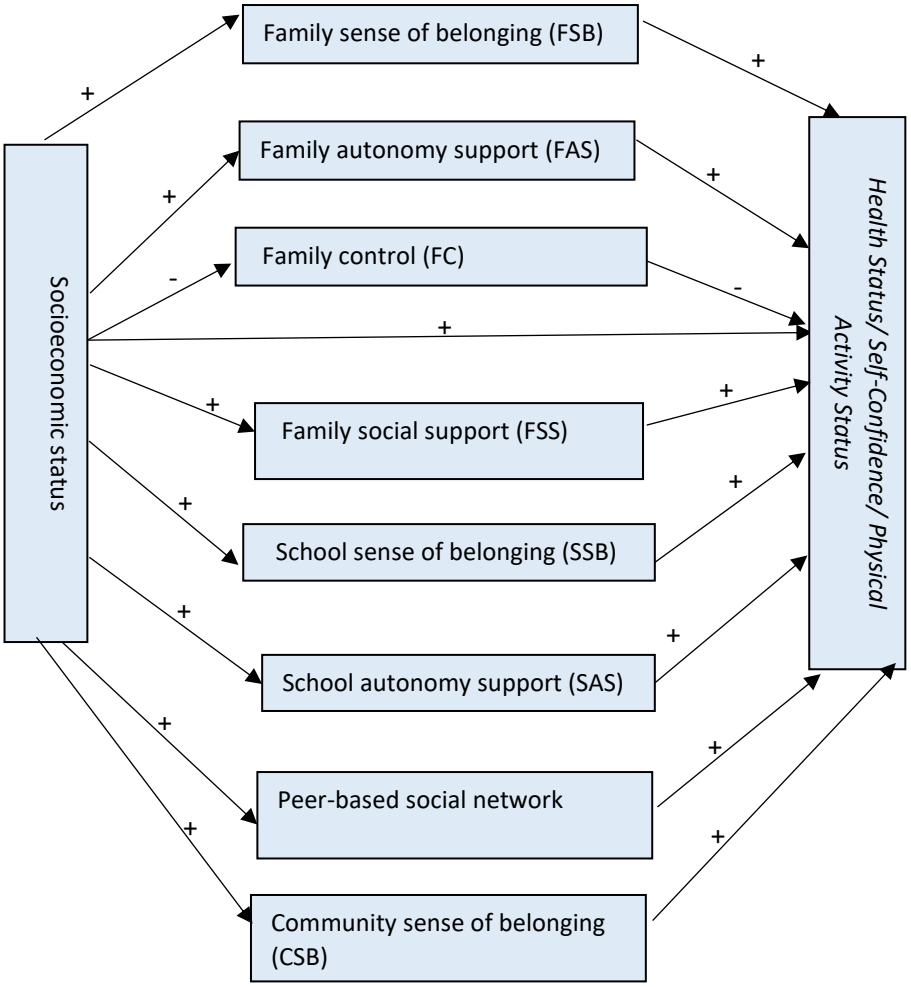

Figure 3.4. Hypothesised model for mediation analysis for adolescents' health status, self-confidence, and physical activity**.** Author's construct (2021).

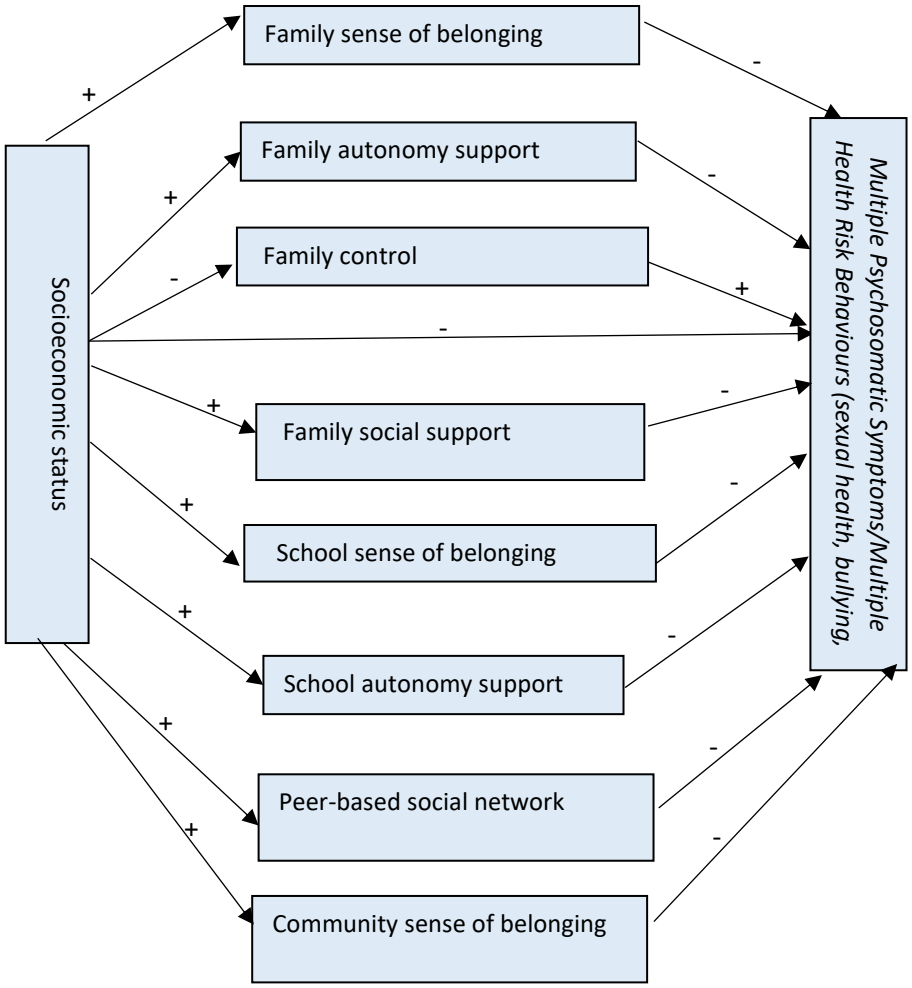

Figure 3.5. Hypothesised model for mediation analysis for adolescents' multiple psychosomatic symptoms and multiple health risk behaviour**.** Author's construct (2021).

Moreover, based on the theoretical framework, moderating effects of psychosocial social capital were proposed in the relationship between SES and health and health behaviours. The following moderating hypotheses were proposed:

1B. Family Sense of Belonging (FSB) Hypothesis:

(a-e). Family sense of belonging would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

2B. School Sense of Belonging (SSB) Hypothesis:

(a-e). School sense of belonging would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

3B. **Community Sense of Belonging (SSB) Hypothesis:**

(a-e). Community sense of belonging would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

4B. Family Social Support Hypothesis:

(a-e). Family social support would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

5B. Family Autonomy Support Hypothesis:

(a-e). Family autonomy support would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

6B. School Autonomy Support Hypothesis:

(a-e). School autonomy support would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

7B. Family Control Hypothesis:

(a-e). Family control would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

8B. Peer-Based Social Network Hypothesis:

(a-e). Number of friends would moderate the relationship between SES and self-rated health, self-confidence, multiple psychosomatic symptoms, physical activity, and multiple health risk behaviours respectively.

Based on the above hypotheses, the hypothesised models for examining the moderating effect of potential health assets are shown in Figure 3.7 and Figure 3.8.

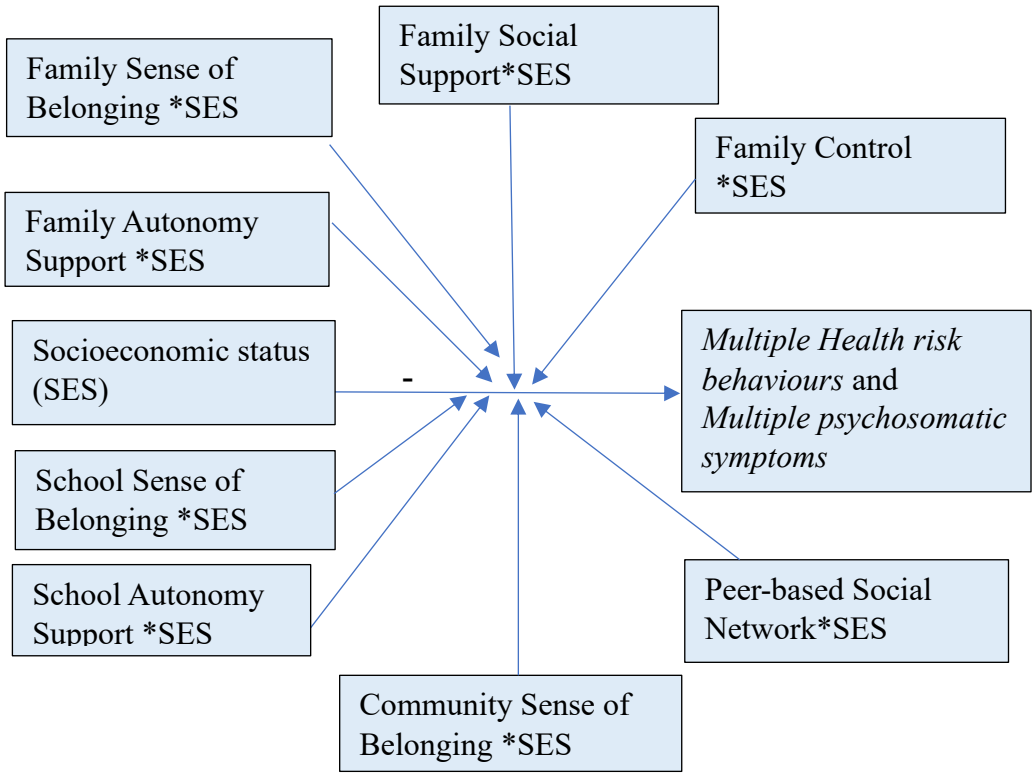

Figure 3.6. Hypothesised model for moderation analysis of adolescents' multiple psychosomatic symptoms and multiple health risk behaviour**.** Author's construct (2021)

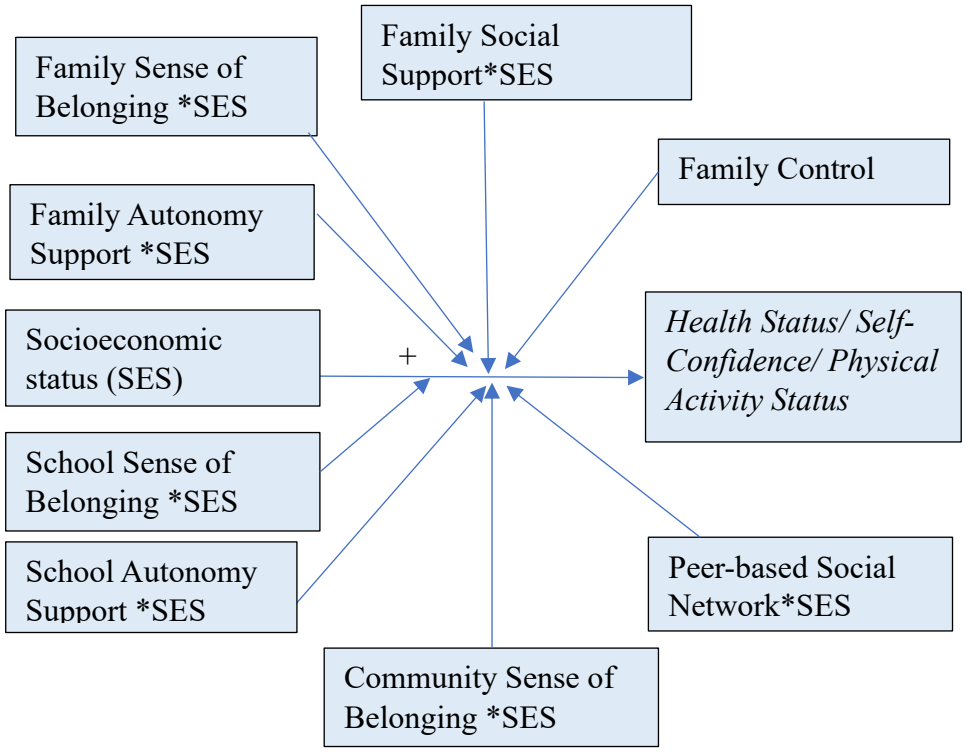

Figure 3.7. Hypothesised model for moderation analysis for adolescents' health status, self-confidence, and physical activity**.** Author's construct (2021)

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

According to Creswell (2014), research methods comprise the procedures included in gathering, assembling, and analysing data for logical investigation. In this chapter is presented the study design and the numerous steps engaged in this study. The variables/concepts, measurement instruments, and statistical approaches involved in the study are also presented.

4.2 Study Design: Mixed Method Research

To best address the research's aim and questions, a mixed-method approach is employed in this study. The review of the literature and literature gap revealed that most studies on the protective role of social capital in the health and health behaviours of young people, as well as the psychosocial mechanism of social capital, have generally employed quantitative approaches leading to a dearth of literature in qualitative evidence on the importance of social capital for the health and health behaviours of adolescents. This study, hence, seeks to both generalise the findings to a population as well as develop a detailed view of the meaning of social capital and health-related concepts for adolescents in Ghana. Therefore, employing both quantitative and qualitative methods simultaneously will offer the best understanding of the research topic and aim. Thus, employing a mixed method will help cover the limitations of using either a quantitative or qualitative approach (Creswell, 2014). Earlier studies have also underscored the significance of mixed methods research in bolstering findings (Chan, 2001; De Allegri et al., 2015; Amoah, 2016) and

constructively negating results even in the same study (Maher et al., 1999; Spaetgens et al., 2016).

Moreover, the health asset approach used in this study is also a new theoretical framework that has not been broadly tested and used in the Ghanaian context and some scholars suggest that where a theory is new to the context, a mixed-method approach involving both quantitative and qualitative approaches is the best option to use (Amoah, 2016). This implies that to provide strong evidence on the reliability of the application of the health asset approach for the Ghanaian context, all appropriate designs are needed. This is to adequately capture and address the *what and how* questions related to the role of social capital as protective health assets for the health and health behaviours of adolescents amidst SES as proposed by the health asset approach. Therefore, the theoretical framework employed in this study presents the need for the use of both quantitative and qualitative questions to fully address the research problem and aim of this study and to potentially propose the framework as suitable for application in the Ghanaian context (Creswell, 2014). The qualitative study will help to fully *bring to life* through adolescents' voices (experiences and life stories), how the protective role of social capital as proposed in the quantitative study and theoretical framework manifest its psychosocial mechanism in the lives of adolescents in Ghana.

According to Creswell (2014), four procedures for developing mixed methods have been established. This study falls under the procedure where one database can assist explain the other database, and one database can investigate different kinds of questions than the other database (Creswell, 2014). Thus, the research design employed in this study allows the utilisation of two distinct datasets (quantitative and qualitative) of which one dataset (qualitative) can argue/support findings from the

other dataset (quantitative), and the research questions for developing the two datasets are different. In qualitative research, this study employed narrative research in which views about participants' lives are obtained (Riessman, 2008; Clandinin & Connelly, 2000). Participants' accounts of their life experiences allow the researcher to capture the various factors that potentially influence young people's health and health behaviours that cannot be captured in the quantitative study, thereby, playing a supporting role for the quantitative study. Qualitative narrative research also offers an opportunity for adolescents' voices to be explored profoundly through various procedures such as focus group discussions and interviews. These procedures allow the participants to freely express their opinions about concepts under study which can lead to the derivation of novel and in-depth data from participants. Such novel data can contribute to addressing limitations in the quantitative study as well as lead to methodological and theoretical enhancement in the quantitative study.

For the quantitative study, this study employed a nonexperimental form of quantitative research, the *correlational design.* In the correlational design, researchers use the correlational statistic to describe and measure the degree of association (or relationship) between two or more variables or sets of scores (Creswell, 2012). These designs have been elaborated into more complex relationships among variables found in techniques of structural equation modelling, hierarchical linear modelling, and logistic regression as are employed in this study's statical analyses. This thesis further focuses on a form of nonexperimental design known as *survey research design*. Survey research provides a quantitative or numeric description of trends, attitudes, or feelings of a population by studying a sample of that population as done in this study. Finally, this study employs *cross-sectional survey research* which involves the use of questionnaires for data collection with the intent of generalising from a sample to a

population (Fowler, 2008).

Employing a cross-sectional quantitative research approach offer a better understanding of the various mechanisms involved in the pathways toward young people's health and health behaviours. This is because this approach allows the use of multivariate analysis which allows the inclusion of variables/indicators of social capital, SES, health, health behaviours, and sociodemographic variables to be examined in a complex analytical model. Cross-sectional quantitative research enables scientific and empirical understanding of how proposed variables relate and interact with each other to influence health and health behaviour outcomes while controlling for several confounding factors that cannot be done qualitatively.

4.3 Application of the Mixed Method Research Design

Generally, the preference of research approaches is based on numerous considerations comprising time convenience, readiness of human and fiscal resources, the expected utilisation of the data and the anticipated outcomes, and the emphasis set on each sort of data (Creswell, 2014). Some approaches to carrying out mixed-method have been developed and comprehensively used over the years (Bryman, 2008; Creswell, 2014; Creswell & Clark, 2011; Hammersley, 1996; Hesse-Biber, 2010; Morgan, 1998). Generally, six methodological approaches for mixed methods research are proposed by Creswell (2014), of which three are basic and three are advanced approaches to mixed research methods. This study uses two advanced methods namely the *transformative mixed method and embedded mixed method*. The transformative strategy is usually guided by a theoretical approach or framework that reflects the purpose of the study and research questions which is in line with the aim of this study. The data for this type of design includes both quantitative and qualitative data. Using the transformative design also enables the use of the same theoretical lens to address

different research questions for both quantitative and qualitative studies. The data collection in this form of design could be converged (collected concurrently) or it could be ordered sequentially with one building on the other (Creswell, 2006; Creswell, 2014) as shown in Figure 4.1.

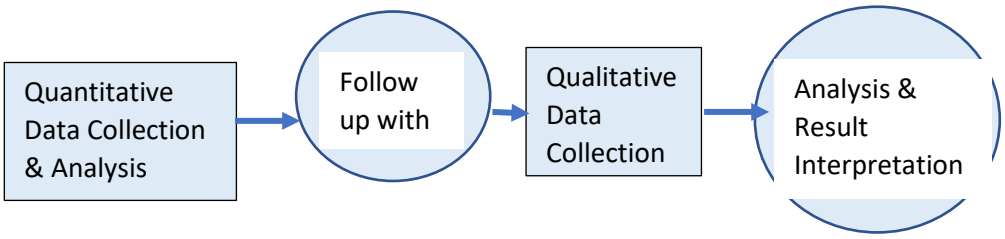

Figure 4.1. A transformative sequential design employed in this study. Adapted from Subedi, (2016).

The intent of the transformative mixed-method design, according to Creswell and Plano Clark (2011) is to utilise one of the four designs (convergent, explanatory, exploratory or embedded), but to enclose the selected design within a transformative framework. As employed in this study, this framework provides an orientating lens for the mixed method design and informs the overall purpose of the study, the research questions, the data collection, and the outcome of the study (Creswell, 2006; Creswell, 2014). The transformative framework seeks to address a social issue for a marginalised or underrepresented population and engage in research that brings about change (Creswell, 2014). Similarly, this study aims to stimulate change in approaches often employed by practitioners in addressing health and health behaviours of the too-often marginalised group, *children*, and *adolescents* by proposing *social approaches* and *social capital* as crucial elements of policy strategies and interventions in Ghana.

In this study's research design, embedded design is hence enclosed within a transformative research design to offer an in-depth understanding of the application of this study's theoretical framework (Creswell, 2006), the *health asset*

approach to the health and health behaviours of adolescents in the Ghanaian context. The embedded design is a mixed-method design in which one dataset either quantitative or qualitative is embedded in the other broader study (quantitative or qualitative) and provides a secondary role in a study based primarily on the other data type (see Figure 4.2) (Creswell et al., 2003). The premises of this design are that a single dataset is not sufficient, that different questions need to be answered, and that each type of question requires different types of data (Hanson et al., 2005). Researchers use this design when they need to include qualitative or quantitative data to answer a research question within a largely quantitative or qualitative study. This design is particularly useful when a researcher needs to embed a qualitative component within a quantitative design, as in the case of a correlational design employed in this thesis. An embedded mixed method design employs either the convergent or sequential use of data. Thus, the aim of embedded design is to collect quantitative (QUAN/Quan) and qualitative (QUAL/Qual) data simultaneously (one-phase approach) or sequentially (two-phase approach), but to have one form of data play a supportive role for the other form of data (Creswell, Plano Clark, et al., 2003; Creswell, 2006; Creswell & Plano Clark, 2011; Creswell, 2014). The reason for collecting the second form of data (either qualitative or quantitative) is that it arguments or supports the primary form of data (Creswell, 2014).

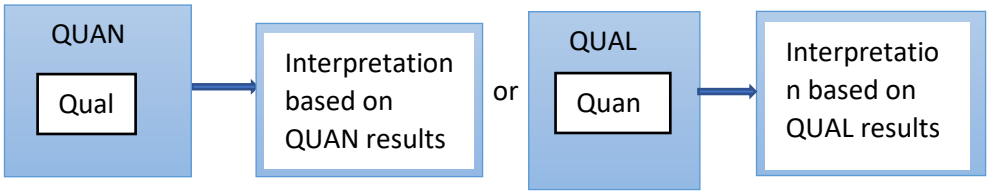

Figure 4.2: Embedded design (Creswell, 2006)

Although many forms of the embedded model exist, this study uses the correlational model since this study is based on a correlation research design. The correlational model (Figure 4.3) is a type of embedded design, in which qualitative data are embedded within a quantitative design. In this design, the researcher collected qualitative data as part of the correlational study (quantitative study) to help explain how the mechanisms in the correlational model (quantitative analytical model) manifest in real life.

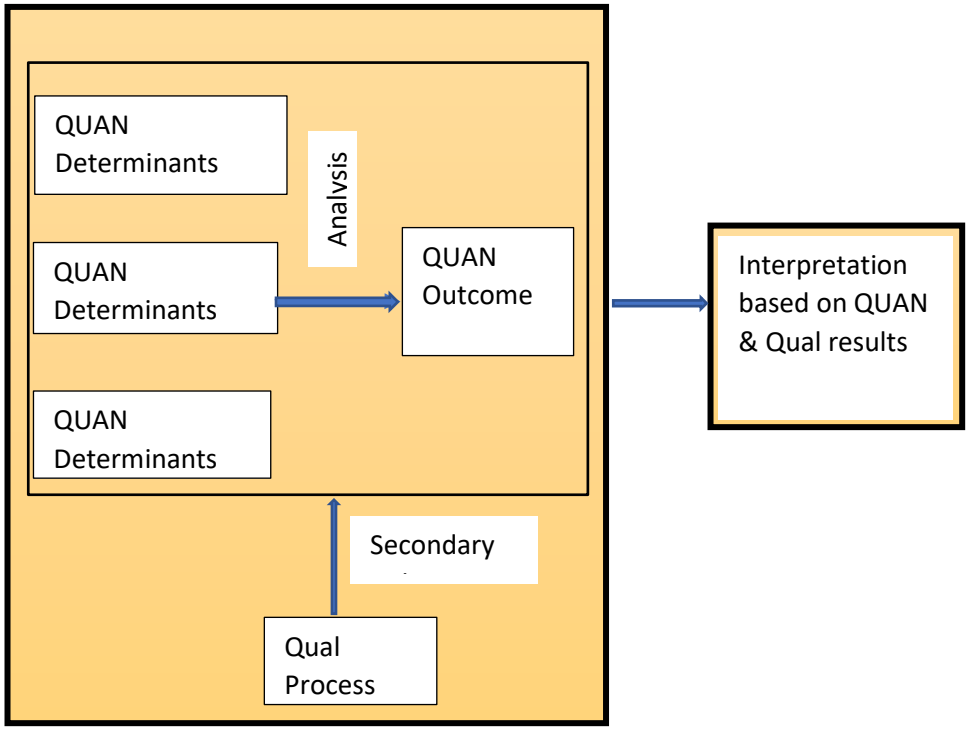

Figure 4.3: Embedded design: Embedded correlational model employed in this study. Adapted from Creswell (2006).

Therefore, the main data collection process employed in this study involved a *two-phase approach*, using a *transformative sequential embedded mixed design* (Figure 4.4). Employing sequential mixed design generally offers a pragmatic worldview, where the researcher bases the inquiry on the assumption that collecting diverse types of data best provides a more complete understanding of a research

problem than either quantitative or qualitative data alone. The strength of both methods, thus, provides the best understanding (Creswell, 2014). In the first phase involving quantitative data, the study began with a broad survey using questionnaires to generalise results for the adolescent population. After a preliminary data analysis of the quantitative data, the second phase involved carrying out the qualitative study which involved focus group discussions using open-ended questions. The questions for the focus group discussions were designed based on the result of the preliminary analysis to collect detailed views from participants to support the initial quantitative survey from a different perspective. Thus, the researcher first surveyed many adolescents and then followed up with a few participants to obtain their specific views and their voices about the topic. Some participants from the quantitative study participated in the qualitative study. This approach makes the quantitative study the primary study while the qualitative study is playing the secondary role to either argue or support findings from the quantitative study as well as offer a deeper understanding of certain concepts used in the quantitative study (Figure 4.4). This thesis employed the embedded mixed design due to its unique advantages according to Creswell (2006) such as:

- Researchers can use it when they have inadequate time or resources to execute extensive quantitative and qualitative data collection since less priority is given to one kind of data than the other.
- Graduate students can easily manage this design as less data is needed for one of the research methods employed.
- This design could be pleasing to funding organisations as the principal emphasis of the design is usually quantitative, a correlational analysis.

Although utilising embedded mixed design can be challenging to integrate the results when two methods are used to answer dissimilar research questions as done in this thesis, unlike other mixed methods such as the triangulation design, the embedded design does not aim to converge two distinct datasets obtained to address similar questions. Researchers applying an embedded design are allowed to maintain two separate results when reporting the findings either in the same paper or in different papers (Creswell, 2006). These characteristics of the embedded mixed method hence make it suitable for this thesis as it supports the style of presentation of results and interpretations used in this thesis.

Generally, the mixed-method design employed in this thesis involved three stages of which the first stage included the reconnaissance field survey involving various steps employed in preparation for the actual data collection. The second stage involved the actual data collection and preliminary quantitative analyses, and the final stage involved the key study analyses and interpretation of results as shown in Figure 4.4. The various methodological approaches employed in the entire study (Figure 4.5) are further elaborated in the following sections in this chapter.

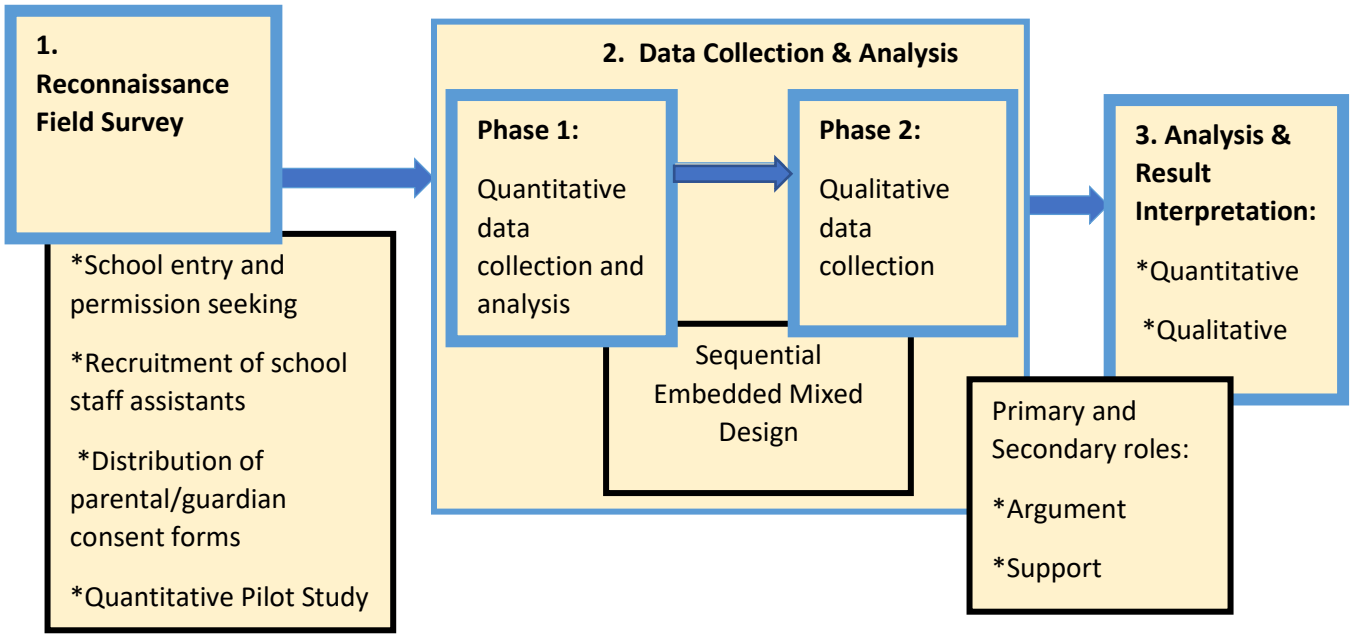

Figure 4.4: The study's mixed method design process: Transformative sequential embedded mixed design. Authors construct (2021).

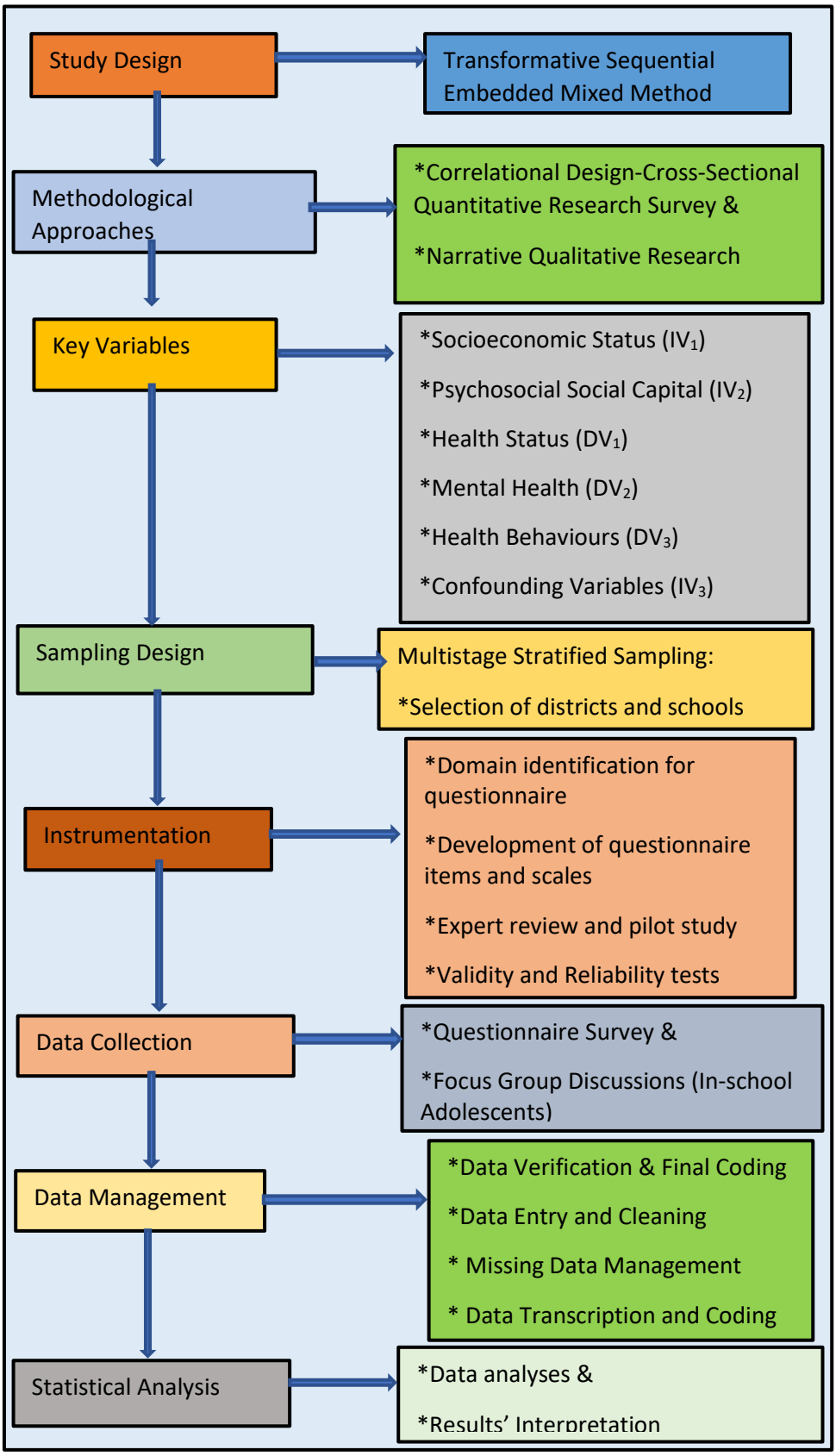

Figure 4.5: Summary of employed design and methodological framework. IV_{1-2}= Independent variable, DV_{1-3} =Dependent variables. Authors' construct (2021).

4.4 Research Variables, Concepts, and Measurements

4.4.1 Measuring Health Outcomes

Being physically and emotionally healthy empowers young people to cope with growth difficulties and makes their shift to adulthood easier (Currie et al., 2012). This study will hence focus on measuring instruments that encompass both the physical and psychological/mental dimensions of young people's health outcomes. Three health outcomes of adolescents: health status, multiple health/psychosomatic complaints, and self-confidence (Freeman et al., 2016; Inchley et al., 2016) are assessed in this study.

4.4.1.1 Health Status

Health outcomes of people can be evaluated by determining their health status (Madans et al., 2015). Health status is a multidimensional notion, needing several markers and various methodologies for sufficient measurement. Various indicators of health status are often incorporated in health surveys, comprising single brief markers; questions regarding disease occurrence and pervasiveness; and questions regarding functioning (physical, cognitive, emotional, and social) or disability (Stewart and Ware, 1992, Madans et al., 2015). A general attention is given to using a single question to assess health status in health studies. A general brief indicator of health status used is the participants' subjective appraisal of their health status as either excellent, very good, good, fair, or poor (Madans et al., 2015). This measure often known as self-rated health (SRH) extremely correlates with other measures of health status and predicts mortality and admittance to long-term-care amenities (Idler & Angel, 1990; Madans et al., 2015). SRH is a subjective indicator of overall health. In young people, SRH does not only imply the existence or lack of chronic ailment or debility but also to a further broad perception of self (Inchley et al., 2016). Young people's assessment of their health is influenced by their general perceived

functioning, involving physical and non-physical health aspects (WHO, 2006). Empirical studies have shown that SRH independently predicts impending morbidity and mortality despite accounting for other influences (Idler & Benyamini, 1997). Adolescent SRH is shaped by diverse health indicators, including medical, psychological, socioenvironmental, behavioural (de Matos et al., 2003; Breidablik et al., 2008), and wider social contextual factors such as family, peers, school and cultural status and family affluence (Inchley et al., 2016).

In this study, health status was therefore measured by SRH using a one-item question adopted from WHO-HBSC (2016) survey: "Would you say that your health is…?'' Responses ranged from 5= Excellent, 4 = Very good, 3 = Good, 2 = fair and 1 = poor. The last option, 'don't know' was not scored. The score (1-5) was used for multivariate analysis. For Cross-tabulation and Chi-square analysis, the score was dichotomised into a dummy variable 0 = Low SRH (2-Fair, 1-poor) and 1 = High SRH (5-Excellent, 4-Very good, 3-Good) (Daku et al., 2009).

4.4.1.2 Multiple Health Complaints/Psychosomatic Symptoms

Multiple health complaint/psychosomatic symptom is another health outcome that is measured in this study. Health complaints, comprising somatic (e.g., headaches, stomachache) and psychological (e.g., nervousness) symptoms are crucial markers of well-being. They appear in multiples (Peterson et al., 1997; Mikkelsson et al., 1997; Brosschot, 2002) so can have significant negative consequences on adolescents and healthcare systems (Currie et al., 2012). Recurrent or prolonged stress causes emotional and physiological stress, which consequently creates numerous complaints (Brosschot, 2002). Psychosomatic complaints are linked with social contextual factors related to the family, peers, and teachers (Gerber, 2008). Moreover, the school has been identified as a protective factor against multiple health complaints (Karademas

et al., 2008). Although psychosomatic symptoms and multiple health complaints represent critical indicators of potential health problems in adolescents, no study in Ghana has investigated protective factors for adolescents' experiences of multiple health complaints/psychosomatic symptoms. It is hence important that this thesis investigates the role of social capital in the family, school, peers, and community in protecting adolescents from experiences of multiple health complaints/ psychosomatic symptoms. Multiple health complaints/psychosomatic symptoms were measured in this thesis by the adolescents' experiences of multiple health/psychosomatic symptoms (MHPS) based on the HBSC symptom checklist (Currie et al., 2012). The checklist presents a non-clinical gauge of mental health underscoring both psychological and somatic dimensions of health (Currie et al., 2012; Inchley et al., 2016). All items representing multiple health complaints on the checklist when combined measures psychosomatic complaints (Ravens-Sieberer et al., 2008; Currie et al., 2012). In this thesis, multiple health/psychosomatic symptoms and multiple health/psychosomatic complaints are used interchangeably where appropriate as the symptoms assessed represent the complaints reported.

The participants were asked how often they had experienced the following seven symptoms in the last six months: headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Response options for each symptom ranged from "1 = Everyday'', "2 = Once a week'', "3 = More than once a week, 4= Never'' and the "don't know'' category was not scored. For this study, the responses were dichotomised as 0 = No (4-Never) and 1 = Yes (1-Every day, 2-Once a week, 3- More than once a week). A sum-score of the responses for the 7 items (0-7) which was used for the multivariate analysis. For Cross-tabulation and Chi-square analysis, the score was dichotomised into a dummy variable:

0 = Low psychosomatic symptoms (no/single health symptom-0-1) and 1 = High psychosomatic symptoms (multiple health symptoms-2-7).

4.4.1.3 Self-confidence

Extensive literature has assessed the importance of self-confidence in adolescent daily functioning, especially in high-income countries (Sawyer et al., 2012; Cosma et al., 2016). Self-confidence has been found as another important driver of adolescent well-being, mental health, and risky behaviours (Cosma et al., 2016; Freeman et al., 2016). For example, high perceived self-confidence is linked to lower perceived loneliness and increased psychological well-being (Cosma et al., 2016). Perceptions of self-confidence signify the level of stress and anxiety that young people experience (Freeman et al., 2016).

Self-confidence is the certainty that a person will succeed in certain circumstances or assigned tasks (REACHOUT.com, 2021). Self-confidence likewise implies good feelings people have about themselves including the bravery to identify themselves, believe in themselves, and act on their beliefs (Peterson, 2021). Young people's self-confidence is linked to their self-esteem, a positive feeling about themselves and feeling that they are worthy and valuable (REACHOUT.com, 2021). Positive traits of self-confidence incorporate empowering adolescents to make safe, advised decisions which supports the notion of autonomy support, a facet of social capital.

Self-confidence can fluctuate notably during major developmental shifts in adolescence (Cosma et al., 2016) and about half of adolescents battle with low confidence levels during the early adolescent ages (REACHOUT.com, 2021). Adolescents experience a social redirection phase where the beliefs of peers are likely to be considered more valuable than beliefs of family members (Sebastian et al., 2011).

Therefore, some of the key triggers of adolescents' risky behaviours evolve from the longing for acceptance and belongingness to their peers to prevent social repudiation and segregation (Chen & Furnham, 2002).

Despite the vast evidence on the role of self-confidence in the healthy development of adolescents, not much evidence on the protective and risk factors of self-confidence exists particularly in the Ghanaian context. Again generally, while evidence of the relationship between social capital and self-esteem exists, evidence of the relationship between social capital and self-confidence of adolescents is rare. Therefore, this thesis offers a novel contribution to research by examining the role of potential risk (SES) and protective factors-social capital (within diverse social contexts) of adolescents' self-confidence development. By promoting protective health assets for their self-confidence, their social well-being will be enhanced, thereby assisting them to develop self-acceptance and become better equipped to tackle risk factors that threaten their self-confidence. Self-confidence in this study was assessed on a subjective basis by examining adolescents' satisfaction with their level of self-confidence (SSC). The participants were asked "How satisfied are you with your self-confidence?''. The responses range from a scale of "0 = Not at all satisfied'' to "10 = Totally satisfied'' (ISCI, 2012). Thus, the score was 0-10 which was used for the multivariate analysis. For Cross-tabulation and Chi-square analysis, the score was dichotomised into a dummy variable: Low SSC = 0-5 and High SSC = 5-10.

4.4.2 Measuring Health Behaviours

Two dimensions of health behaviours were assessed in this thesis; health-promoting behaviour and health risk behaviour (Freeman et al., 2016). The terms risk behaviours and health risk behaviours are used interchangeably in this thesis.

4.4.2.1 Health Promoting Behaviour- Physical Activity

Developing healthy forms of physical activity (PA) in adolescence is crucial as PA trails fairly through adolescence and from adolescence towards adulthood (Telama, 2009; Inchley et al., 2016). However, a deterioration in levels of PA among young people has been observed (Kalman et al., 2010; Inchley et al., 2016) and just a minority of young people meet the existing global commendation of 60 minutes per day of PA (Kalman et al., 2010; Hallal et al., 2012; Inchley et al., 2016). PA infers bodily movement generated by the muscles that create an increase in energy outlay (Sirard & Pate, 2001). It includes *non-vigorous tasks such as playing catch, moderate-intensity tasks such as walking, and vigorous-intensity tasks such as running* (Freeman et al., 2016pg30). More physically active people including adolescents portrays lesser levels of mental health problem symptoms as well as better vitality and well-being (O'Connor & Puetz, 2005; Stults-Kolehmainen & Sinha, 2014; Biddle et al., 2019; Rodriguez-Ayllon et al., 2019; Gianfredi et al., 2020; Wright et al., 2021). Recent research also suggests that during the Covid-19 pandemic, PA could contribute to better mental health and well-being in adolescents. For instance, research conducted during the Covid-19 pandemic on adults has shown that PA is connected to better mental health, such as lower levels of depression, stress, and anxiety (Rodriguez-Rey et al., 2020). Importantly, it is not only more physical activity that can improve mental health but an unexpected decrease in PA can negatively impact depressive symptoms, anxiety, fatigue, and energy levels (Weinstein et al., 2017). For example, self-reported reductions in physical activity since the onset of the Covid-19 pandemic have been associated with higher stress, depression, and anxiety (Stanton et al., 2020).

While substantive evidence on the importance of PA to health and well-being exists, there is scarce research on the risk and protective factors of PA among

adolescents, especially in Ghana. If PA is important to the health of adolescents, then it is also important that the determinants of PA be equally investigated to recommend appropriate strategies for how to promote physical activity among adolescents. This is particularly vital during this challenging period where measures to combat the Covid-19 pandemic have affected the physical activity level of adolescents. Offering evidence on the determinants and protective role of adolescents' social capital against risk factors of PA in this thesis, therefore, offers evidence-based advocacy for social approaches to the promotion of physical activity among adolescents during and post-Covid-19 pandemic. This will ensure that appropriate COVID-19 control measures that do not destabilise protective factors of PA are promoted.

PA of adolescents was assessed by "How physically active are you? (Doku et al., 2009). PA in this context implies regular engagement in body exercising, physical education in school, and sporting activities. The responses were coded as "1 = Not physically active'', "2 = A little physically active'', "3 = Physically active'' and "4 = Very physically active''. The "don't know'' option was not scored. The score ranged from 1- 4 and this was used for the multivariate analysis. The score was further categorised into a dummy variable: 0=Low PA (1-2) and 1=High PA (3-4) for Cross-Tabulation and Chi-square analysis.

4.4.3. Multiple Health Risk Behaviours (MHRB)

Risk behaviours in adolescence, such as alcohol ingestion, substance use, poor diet, physical inactivity, and unprotected sex, are reported to be common (Gore et al., 2011). The occurrence of several of these behaviours emerges in adolescence and can persist in adulthood with concomitant disease and untimely transience (Viner et al., 2006). The likelihoods of experiencing multiple risk behaviours intensify during growth,

notably through the adolescent ages. Irrespective of culture, risk behaviours intensify in incidence and multiplicity through adolescence (Spring et al., 2012). For example, Brener et al. (1998) discovered connections between age, gender, and multiple health risk behaviour experiences among US youth. While many studies examine the clustering of one or two behaviours (van Nieuwenhuijzen et al., 2009; Jackson et al., 2012), few studies have simultaneously examined a wide range of behaviours (Kipping et al., 2014). Meanwhile, multiple health behaviours, thus a sum measure of various behaviours can pose acute effects on health and mortality (McCullough et al., 2011). Also, findings by Tamokoski *et al*. (2009) illustrate that a combined measure of multiple health behaviours determined preventable death, above and beyond the predictive value of any single lifestyle behaviour.

Understanding the determinants of multiple risk behaviours of adolescents in LMICs is hence a desirable public health concern that requires urgent interventions and policies to be established for adolescents suffering from and are at risk of multiple risk behaviours. This will consequently help protect adolescents against morbidity and premature and preventable mortality. While evidence of the significant role of SES and social capital in the health risk behaviours of adolescents exist, the role of SES and social capital in establishing or preventing multiple health risk behaviours in adolescence is generally rare and especially for the Ghanaian context. In this thesis, the roles of SES and social capital in adolescents' experiences of multiple health risk behaviours are examined. This approach was adopted over examining specific risk behaviours because significant evidence has been established in the literature on the effect of SES and social capital on specific risky health behaviours such as alcohol use, bullying, smoking, and substance use although such evidence is even rare in the Ghanaian context. Also, this approach helps to offer substantial evidence on the

potential protective role of social capital in the lives of adolescents suffering from numerous forms of risk behaviours simultaneously in the presence of socioeconomic inequalities.

MHRB is measured by employing five distinct indicators of health risk behaviours often experienced during the adolescence period; bullying, tobacco intake, alcohol intake, cannabis/drug use, and sexual intercourse (Currie et al., 2012; GSHS, 2013; Inchley et al., 2016). It is hoped that findings from this topic can contribute to the discourse on the potential downside of social capital which some critics claim is that it promotes risk behaviours among young people. This claim resulted from the fact that young people through their social networks can form groups or gangs and engage in risky behaviours such as gang bullying, smoking, substance use, rape, and other delinquent behaviours.

Bullying: There are reported Short-and long-term consequences of participation in bullying on both the culprit and victim (Currie et al., 2012; Freeman et al., 2016; Inchley et al., 2016). Some of the effects of bullying on young people's physical health comprise somatic symptoms (e.g., head, stomach aches, etc.) (Nansel et al., 2004; Due et al., 2005), psychological misery (e.g., depression, irritability, anxiety, loneliness, and suicidal ideation) (Salmon et al., 200; Haynie et al., 2001; Peskin et al., 2007; Kim et al., 2008) and long-term forms of behavioural complications, involving belligerence, violent behaviour, alcohol, and substance use (Kaltiala-Heino, 2000; Tharp-Taylor et al., 2009; Luk et al., 2012; Radliff, 2012). Young people implicated in bullying experience high undesirable school experiences (Harel-Fisch, 2011) like poorer peer and teacher relations (Inchley et al., 2016). Regardless of positive developments toward a decline in bullying victimisation in recent years, (Chester et al., 2015), a strong emphasis has been on the adverse mental

health consequences on the victim, including psychological instability, psychosomatic health complications, and suicide (Klomek, 2007; Klomek et al., 2010). Bullying also causes negative internalised sentiments which can push some young victims into alcohol and/ or substance abuse (Luk et al., 2010). The above shows the urgent need for understanding the potential risk and protective factors of bullying in adolescence in Ghana to contribute to combating bullying against adolescents, especially in the school environments. Bullying is measured in this thesis by asking the participants, "Have you been bullied in the previous 2 months?'' (Inchley et al., 2016). The responses were coded as 0 = No and 1 = Yes and Don't know which was not scored. To help participants understand the term bullying, the question included this definition "Bullying occurs when a student or group of students say or do bad and unpleasant things to another student. It is also bullying when a student is teased a lot in an unpleasant way or when a student is left out of things on purpose. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and fun way'' (GSHS, 2013pg15).

Tobacco Use: Adolescence is noted to be a critical period for induction and advancement of tobacco usage with majority of adult smokers reporting their first-time use of cigarette or been addicted to nicotine by eighteen years (Jarvis, 2004). Therefore, accurate epidemiological statistics remain essential to help evidence-based preventative interventions (US Department of Health and Human Services; 2012). Vigorous smoking of cigarettes by adolescents poses instant harmful health concerns, involving addiction, decreased lung function and damaged lung development, and asthma (US Department of Health and Human Services; 2012). Tobacco use has been reported to be the major general preventable trigger of untimely poor health globally, responsible for about six million annual mortalities (WHO, 2011b). Tobacco use,

especially cigarette smoking, is the leading source of health inequalities established on socioeconomic inequalities (Kunst et al., 2004). For instance, in adolescence, smoking induction appears to be greater among adolescents from underprivileged settings (Hiscock et al., 2012).

Investigating the psychosocial role of social capital against effects of SES on multiple risk factors which include tobacco use is, therefore, a crucial step toward offering evidence-based preventive interventions against tobacco use among young people in Ghana. Tobacco use was measured by tobacco use first initiation "How old were you when you first tried tobacco (cigarette, pipe)?''. There were eight responses which ranged from "I have never smoked'' to "18years and older'' (GSHS, 2013). The "don't know'' option was not scored. For this study, the responses were recoded as 0 = Never smoked and 1= Ever smoked.

Alcohol Intake: Alcohol intake by adolescents represents a key global public health challenge. Alcohol is one of the highly common accessible and utilised drugs for adolescents (Johnson et al., 2014; Anderson & Baumberg, 2006). Adolescence is a period of innovation and testing new things through which several young people begin to delve into what they identify as matured conducts including alcohol consumption. However, not knowing the thresholds for safe alcohol intake implies that for some young people, testing of alcohol can lead to extreme amounts of usage creating physical, psychological and social perils (Inchley et al., 2016). Perilous consumption of alcohol, comprising premature and recurrent ingestion and drunkenness has been linked to harmful outcomes such as academic malfunction, aggression, usage of additional substances, unsafe sexual intercourse, etc. (Boden & Fergusson, 2011). Some scholars have also proposed that alcohol intake in adolescence could adversely impact brain development and functioning (Feldstein et al., 2014; Inchley et al., 2016).

Reports show that grownups function as prototypes for drinking conduct in various cultures (Moffitt, 2006). Also, young people might utilise alcohol to satisfy social and personal desires, strengthen connections with peers and start new relations (Engels & ter Bogt, 2001). These findings infer the role of social factors in influencing the initiation of alcohol intake among adolescents positing the need for social approaches toward addressing alcohol intake among adolescents. Considering the critical impact of alcohol intake on adolescent outcomes, it is crucial therefore that this study examine the role of SES and social capital in the alcohol intake of adolescents in Ghana. Alcohol intake was measured by alcohol first initiation "How old were you when you had your first drink of alcohol - more than few sips?'' The eight responses ranged from "I have never had alcohol'' to "18years old'' (GSHS, 2013). The "don't know'' category was not scored. For this study, the eight responses ranging from 0-8 were dichotomised into 0 = never had alcohol and 1 = had alcohol (see Appendices).

Cannabis/Drugs Intake: Cannabis is an illegal substance use (Inchley et al., 2016). Cannabis is a threatening and damaging substance, specifically for young people who often utilise it (Volkow et al., 2014). Cannabis use leads to mental disorders and can activate psychosis (especially for those susceptible to it) (Casadio et al., 2011). Initiation at a young age and substantial and heightened intake are connected to brain impaired development, anxiety incidents, cognitive disorders, etc. (van Ours & Williams, 2009), worsening school performance and dropout (Bachman et al., 2008), risk-taking, violence, depression, etc. (Giffith-Lendering er al., 2001). According to studies, teenagers whose peers or elder siblings use cannabis (Kuntsche et al., 2006; Kokkevi et al., 2007; Bogot et al., 2006) and those who suffer either low parental commitment and support or high degrees of coercive discipline (Anthony & Chen, 2005) are more probable to also use cannabis. Other factors that contribute to

cannabis intake by adolescents include testing, mood-boosting, social enrichment, and peer compliance (Lee & Woods, 2007). These findings show the role that social context plays in influencing the use of cannabis by adolescents. In this study, cannabis/drugs intake first initiation was evaluated by "How old were you when you first used drugs?'' (Drugs included, marijuana, amphetamines, cocaine, inhalants) (GSHS, 2013). Responses ranged from "I have never had alcohol'' to "18years old''. The "don't know'' category was not scored. For the aim of this study, the eight responses 0-8 were dichotomised into 0=Never had drugs and 1= Ever had cannabis.

Sexual Intercourse Experience: The occurrence of sexual relationships is a vital developmental symbol of adolescence, and initial intercourse often occurs at this stage *(*Avery & Lazdane, 2010*)*. Sex at a young age is suggested to be a vital indicator for sexual health (WHO, 2010) and have repercussions for well-being, social position, future health lifestyles involving sexual behaviours, etc. *(*Magnusson & Trost, 2006; Fergus et al., 2007*)*. Sexual intercourse initiated at a young developmental stage can raise the likelihood of undesirable and unintended pregnancy or sexually transmitted diseases (Godeau et al., 2008), primarily because of inappropriate use of condoms or unprotected sex (Currie et al., 2012). Consequently, around fifteen million adolescents globally give birth yearly (WHO, 2010). Additionally, early sexual behaviour is linked with risk influences including substance use, (Madkouret al., 2010) and poor psychological health (Sabia & Rees, 2008).

Furthermore, early sexual induction is recorded as a component of wider risk-behaviour compilations that involve substance use and unsafe sex with broad environmental circumstances conceivably acting as critical mediators (Huibregtse et al., 2011; Inchley et al., 2016). This evidence supports the potential role of social capital functioning as a mediator for the sexual behaviour of adolescents. In this study,

sexual intercourse was measured by the first initiation of sexual intercourse by asking the participants “How old were you when you had your first sexual intercourse?’’ The responses ranged from “I have never had sex’’ to “18years old’’. The don’t know category was not scored. The eight responses 0-8 were then dichotomised into 0 = Never had sex and 1= Ever had sex in this study.

Overall, it can be seen from the review above that all the specific risk behaviours are to some extent related to each other as well as to the health outcome variables employed in this study. As this study aims to access the influence of SES and social capital on multiple health risk behaviours, a compound score of all the risk behaviours elaborated above was created. To obtain a compound score to represent the participants' experiences of multiple risk behaviours (bullying, tobacco intake, cannabis/drugs intake, alcohol intake, and sexual intercourse experience), the scores or responses for the five questions above were combined to obtain a composite score ranging from 0-5. The composite score was used for the multivariate analysis. For the Cross-tabulation Chi-square analysis, the score was dichotomised into a dummy variable: 0 = Low MHRB (none and single risk behaviour-0-1) and 1 = High MHRB (more than 1 risk behaviours) = 2-5.

4.4.4 Measuring Socioeconomic Status

Current scholars have revealed that adolescents experience poverty differently from their parents and for that reason, using their parents’ SES (usually measured by income, educational level, employment, etc.) to measure their SES is problematic. This study, therefore, adopted a measurement scale developed by Addae (2020) which was adopted from the material affluence scale designed by Doku et al., (2009) for exclusively measuring the SES of adolescents from LMICs. Addae (2020) also found that the scale was reliable and capable of predicting the well-being (life satisfaction

and happiness) of adolescents as stipulated by existing literature. Therefore, MAS, as operationalised by Doku et al. (2009), presents a feasible substitute instrument for assessing adolescents' SES in the Ghanaian context. The material affluence scale used in this study uses eight indicators comprising two distinct classifications: household assets (television, fridge, computer, radio, electricity, family car, and own room) and housing characteristics (blockhouse and non-block house) (Addae, 2020a). Confirmatory Factor Analysis (CFA) and Cronbach Alpha tests were used to test the validity and reliability of the MAS scale respectively in this thesis. The validity and reliability result for the scale show that the MAS is valid and reliable for the specific sample employed in this thesis (see Chapter six).

The household assets and housing characteristics were then pooled to create a composite variable representing the SES of the respondents for multivariate analysis. For Cross-tabulation and Chi-square analysis, a 3-level variable was created based on the quartile values using descriptive statistics in SPSS: low SES, medium SES, and high SES. To obtain these categories, each of the responses was scored, and summed up and the quartile of the composite score in SPSS was assigned to each of the categories.

For instance, the household asset was measured by the question "Which of the following home appliances does your parent(s) or guardian have at home?'', you can choose more than one answer. Each of the listed appliances (television, fridge, computer, radio, electricity, family car, and own room) had three responses 'yes'; 'no', and 'don't know'; recoded as 1 = Yes and 0 = No and Don't know which was not scored. House characteristics were measured by for example the question "Which of the following best describes the house where you live?'' Options included six items 1= 'Mud/bamboo/ wood house with thatch roofing'; 2= 'Mud/bamboo/wood house

with sheet roofing' 3= 'Uncemented blockhouse'; 4= 'Blockhouse cemented and painted'; 5= 'Other, what…?' and 'Don't know' was not scored. These were recoded as 0 = Non-block house (1,2,3) and 1= Blockhouse (4) 'Other' was coded into the appropriate category. The combined scores ranged from 0-8 and were categorised as low SES (0-3); medium SES (4-5), and high SES (6-8) (see Appendix V).

4.4.5 Measuring Social Capital

The social capital framework employed was adapted from Morgan (2010). The framework proposes four subdomains of social capital – a sense of belonging, autonomy, and control, social support, and social networking. This social capital framework is utilised because of the substantial evidence-based policies/programmes that have been initiated for the health promotion of young people based on this framework in some high-income countries especially the UK. This framework was developed based on the notion of a 'health asset approach' which supports the theoretical argument of this study that social capital can protect young people's health and health behaviours against the effects of SES. The subdomains of social capital proposed by this framework have been employed and tested as indicators of young people's social capital in many studies including Morgan and Haglund (2009), Morgan (2011), and Morgan et al. (2012). These studies have offered significant evidence that these indicators of social capital play vital roles in the well-being, health, and health behaviours of adolescents across various cultures and countries (Morgan & Haglund, 2009; Morgan et al., 2012). These two studies employed globally acknowledged and robust cross-country data from the WHO-Health Behaviour in School-Aged Children (HBSC) international study comprising over 30 countries to establish evidence on the relationship between sense of belonging, autonomy, and control, and social support and well-being, health, and health behaviours of adolescents.

The major strength of the evidence supporting the validity of this framework, therefore, lies in the use of the HBSC study which encompasses inclusive data on major well-being, health, and health behaviour influences that has enabled a comprehensive definition of social capital to examine its associations with several outcomes (Morgan, 2011). Another strength is that the HBSC study can accommodate several harmonizing and often intersecting theoretical approaches, enabling the opportunity to create a further complex and multidimensional insight into adolescent health and health behaviours. Furthermore, HBSC comprises examining family, school, community, and peer contexts, and the socioeconomic status of adolescents to understand social factors that impact their health and health behaviours (Currie et al., 2012; Freeman et al., 2016; Inchley et al., 2016). Cross-country analyses employed by Morgan et al. (2012) and Morgan and Haglund (2009), hence, allowed to test the robustness of this framework across diverse socio-political and cultural contexts. Moreover, this social capital framework has been tested in Hong Kong (Kühner et al., 2021) and Ghana (Addae, 2020a) to be capable of assessing the protective role of the specified social capital indicators in the well-being of adolescents amid SES across different cultures. These shreds of evidence as well as the proposal from the health asset approach, therefore, offer a strong indication that this social capital framework can be employed to explore the protective role of social capital in the health and health behaviour of adolescents in Ghana in the presence of SES.

4.4.5.1 Indicators of Social Capital

The four subdomains identified by Morgan (2010) to be protective of young people's health and health behaviours: "sense of belonging (identity and safety with their environments) and autonomy and control (perceptions of power to influence decisions)'' (Morgan et al., 2012pg4), social support and social network were adopted

to represent the respondents' health assets-indicators of social capital in this study. A total of three indicators of social capital (family sense of belonging-FSB and family autonomy and control and perceived social support from family-PSS-Fa) were included in the family context; two indicators (school sense of belonging-SSB and school autonomy support-SAS) were included in the school context. One indicator was included in the community (community sense of belonging-CSB) as well as in the peer context (peer-based social network-PSN). In this study's analysis, family autonomy and control (FAC) was separated into two different composite indicators – family autonomy support-FAS and family control-FC based on recent literature that claims that autonomy and control are two distinct constructs of parenting styles (Barber et al., 2005; Hauser Kunz & Grych, 2013; Addae, 2020a).

The scales used in creating and measuring the above indicators of social capital were mostly adopted scales from previous studies except for the community sense of belonging and school autonomy support scales that were created by the author of this thesis. Confirmatory Factor Analysis (CFA) in Structural Equation Modelling (SEM) was employed to test the validity of adopted scales using SPSS-AMOS while Exploratory Factor Analysis (EFA) was used to create the newly developed scales in SPSS. The reliability of all the scales was then confirmed using the Cronbach alpha test in SPSS (see Chapter Five). Afterward, several items from the developed measurement scales were selected to create composite indicators representing the respondents' social capital (FSB, SSB, CSB, PSS-Fa, FAS, FC, SAS, PSN) for multivariate analysis. A 3-level indicator was also generated using the quartile values of the combined scores using descriptive statistics in SPSS: low, medium, and high levels of social capital for bivariate analysis: Cross-tabulation and Chi-square analyses. To obtain these categories, each of the responses was scored, summed up,

and the quartile value derived from each composite score was used to create the categories.

A detailed report of the validity and reliability tests and results including from the CFA and EFA are presented in Chapter Five of this thesis. The respondent's social capital indicators employed in this thesis were measured as follows:

- **Sense of Belonging**

A sense of belonging satisfies an individual's inherent emotional desire to belong to groupings and engage in profound social interactions. A sense of belonging is very essential and as *compelling as the need for food* (Baumeister & Leary, 1995, p. 498). A sense of belonging is critical in adolescent development. Although the building of a sense of belonging is crucial for all children (Quinn & Oldmeadow, 2012), significance and prospects regarding belongingness shift from infancy to adolescence, rendering belongingness exceptionally relevant throughout this phase (O'Brennan & Furlong, 2010). As adolescence is a period of identity development (Brechwald & Prinstein, 2011; Davis, 2012), adolescents are confronted with defining who they are as distinct personalities from their families, and how they belong with friends and people in their social settings (OECD, 2016). Knowledge of sense of belonging of adolescents to their family, school, and community and how it influences their health and health behaviours is therefore important for promoting an inclusive society for their health promotions.

Family Sense of Belonging (FSB): Familial relationships play a substantial role in socialisation and in shaping young people's developmental outcomes (Addae, 2020a; Kühner et al., 2021). Family belonging entails perceived enclosure in one's family, comprising senses of being understood, and receiving attention (Goodenow, 1992; Leake, 2007; Aslantürk & Mavili, 2020). Additionally, family belonging is

linked to people's opinions of their family lives. Thus, if people perceive themselves as members of their families and believe they are safe and acknowledged, they perceive belongingness to their families (King et al., 2015). In family belonging, there is a sense of belonging to the entire family, instead of belonging to specific family members (Aslantürk & Mavili, 2020). It should be noted that the connections formed with family members might impact family belonging (King & Boyd, 2016). Although evidence infers that perceived family belonging impacts child well-being irrespective of the quality of parent-child relationships, not many studies have investigated the effect of family sense of belonging on adolescents' health and health behaviours, particularly in Ghana. This study, therefore, examines the FSB of adolescents in the Ghanaian context where the family *social fabric* is highly portrayed to have a crucial role in the development of young people.

'FSB' in this thesis assessed the respondents' perception of belongingness with their family members beyond the nuclear family to include extended family members. The FSB scale was adopted from Addae (2020a). The scale consists of four items from which a composite score was created. For example, the items were coded as: ''how much do you feel your family understands you?'' There were six response categories which were scored as follows: "very little (1)''; "somewhat (2)''; "neutral (3)''; "quite a bit (4)''; "very much (5)'' and "(6) 'don't know'' which was not scored. The scores ranged from 4-20 and were used for the multivariate analyses. The scores were further categorised as low FSB (4-12); medium FSB (13-18) and high FSB (19-20) (see Appendix V). The validity and reliability analyses show that the FSB is valid and reliable to access the FSB of the sample used in this thesis (see Chapter six).

School Sense of Belonging (SSB): Usually, schools are deemed not only essential for students' academic accomplishment but also for their social-emotional

development, health, health behaviour, and well-being (Inchley et al., 2016; OECD, 2016; Addae, 2020a; Kühner et al., 2021). Throughout adolescence, adolescents spend most of their time with peers, instead of with families and other adults (Furstenberg, 2000). As such, school plays a pivotal role in the formation of identity as adolescents tend to also spend more time in school. SSB has to do with perceived acceptance and being valued by peers, and by members of their school (OECD, 2016). SSB helps students to feel secure in school, and offers them identity and society, this subsequently promotes their academic, psychosocial development, and well-being (OECD, 2016; Addae, 2020a; Kühner et al., 2021). In this study, 'SSB' assessed the respondents' perception of how they feel and the support they receive from their schools, classmates, and teachers as measured by Addae (2020a). The 'SSB' scale was made up of six statements (Addae, 2020a) which were used to create a composite scale. For example, 'I feel like I belong at school' had 5 response categories which were scored as follows: "strongly disagree (1)''; "disagree (2)''; "neutral (3)''; "agree (4)'' and "strongly agree (5)''. The scores ranged from 6-30 which were used for the multivariate analyses. The composite score was further grouped as low SSB (6-21); medium SSB (22-26) and high SSB (27-30) (see Appendix). The scale was validated in this study and findings show that the SSB scale is valid and reliable to access the SSB of the sample used in this thesis (see Chapter Five).

Community Sense of Belonging: The WHO launched the *healthy communities* project in the mid-1980s to improve social, environmental, and economic well-being at the community level (Scott, 2010). This emphasises that the recognition of the importance of *community* to individuals is not a recent phenomenon. Generally, the community has been defined by Scott, (2010) to include three interconnected conceptions or components: *1. the quality of holding something in common such as*

values, goals or interests; 2. a social bonding and an accompanying shared sense of self or identity; and 3. the people of a certain district, neighbourhood or town (Scott, 2010pg14). Therefore, for this thesis, community is defined as *a group of people living together within the same neighbourhood who share similar values, social bonding, and accompanied shared sense of self or identity.* Community support continues to be associated with positive health outcomes among young people. The wider community that surrounds youth, especially in their adolescent years, becomes more critical as adolescents begin to develop their own identities separate from their families (Kowaleski-Jones & Dunifon, 2006). Communities can provide adolescents with behavioural norms and expectations, care and support, opportunities to participate in community endeavours, and the chance to feel a sense of belonging (Benson et al., 2012). According to Scott (2010), although many definitions of a sense of community exist, the definition provided by MacMillan and Chavis (1986) is commonly implemented as a reference for research and measurement. A sense of community is thus defined as *a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together* (MacMillan & Chavis, 1986, cited in Scott, 2010pg34). At both the geographic and interpersonal levels, a strong sense of community have been linked to several positive results for individuals and communities (Scott, 2010; Morgan et al., 2012; Kühner et al., 2021). Most studies on community sense of belonging have focused on the adult population, however, interest in young people's community sense of belonging has arisen in recent years and evidence has been found on the significance of community sense of belonging to the well-being, health, and health behaviours of young people especially in the developing country contexts (e.g., Morgan, 2010; Morgan and Haglund 2009; Morgan et al., 2012;

Kühner et al., 2021).

This thesis assesses CSB for the Ghanaian context by adapting questions from the 'International Society of Child Indicators (ISCI) 12yr olds Questionnaire' (ISCI, 2013) to create a new CSB scale that assesses the dimension of community autonomy support (participation in decision making), perceived safety, and availability of recreational space for adolescents to have fun and a good time. Since this is a new scale, EFA was performed, and findings show that all the three items loaded onto one component (see Chapter Five). Also, the reliability of the scale was tested, and findings confirm that the items adopted to create the scale are reliable to assess the CSB of adolescents in the Ghanaian context (see Chapter Five). The validity of the scale was tested but goodness-of-model fit could not be confirmed. This is because the scale consists of only three items, and as such, Chi-square and probability could not be confirmed as the degree of freedom was 0. This means that all the probabilities were exhausted and so a model fitting test is not applicable in CFA.

The participants were asked how much they agree with the following questions: "The community leaders and assemblymen ask children and young people their opinion about things that are important to them''; "In my area there are enough places to play or to have a good time'' and "I feel safe when I walk around in the area I live in''. The responses were scored as: "1= I do not agree'', "2= agree a little bit'', "3= agree somewhat'', "4= agree a lot'', "5= totally agree'' and the sixth response, "don't know'' was not scored. A composite score ranging from 3-15 was obtained for the multivariate analyses. The composite score was categorised into three levels: low CSB = 3-6, medium CSB = 7-10 and high CSB = 11-15.

- **Perceived Social Support from Family (PSS-Fa):**

Social support is the perception (perceived support) and actuality (obtained support) that an individual is provided for, has assistance accessible from others, and more commonly, that a person is a member of a supportive social network (Gurung, 2006). Perceived social support is the *cognitive appraisal of being connected to others and knowing that support is there if needed* (Barrera, 1986, cited in Weber, 1998, p. 1). Received support implies specific supportive acts (e.g., advice or encouragement) received from others when needs arise (Gurung, 2006). There are several sources of support including family, friends, neighbours, etc. These supportive resources can be in the forms of emotional (e.g., nurturance), informational (e.g., knowledge sharing), companionship (e.g., sense of belonging); tangible (e.g., economic aid), or intangible (e.g., personal advice) (Langford 1997; Slevin et al., 1996; Uchino, 2004; Heaney & Israel, 2008). A fundamental element of social support is that during each described element of social support, exchange or reciprocity is required for the support to continue. Generally, four usual roles of social support are noted:

- *Emotional support*: It is the provision of compassion, involvement, love, trust, acceptance, closeness, affection, inspiration, or care (Langford, 1997; Slevin et al., 1996). It also implies the tenderness and nurturance given by suppliers of social support and when provided allows the recipients to feel that they are valued (Slevin et al., 1996).
- *Tangible support*: It involves the supply of monetary aid, material commodities, or services (Heaney & Israel, 2008). It is also known as instrumental support, which comprises the real, direct means people support others (Langford, 1997).

- *Informational support*: It involves the offering of counseling, ideas, or valuable information for problem-solving (Wills, 1991; Langsford, 1997).
- *Companionship support*: This comprises the provision of a sense of social belonging (Wills, 1991). This represents the existence of comrades to participate in communal social activities (Uchino, 2004).

In this study, perceived social support within the family context is measured. Perceived social support from family is measured using the Perceived Social Support from Family (PSS-Fa) scale developed by Procidano and Heller (1983). The PSS-Fa measures were developed to evaluate the extent to which an individual perceives that his/her needs for emotional support, information, companionship, and feedback are fulfilled by family. This scale was developed and validated in three studies in which PSS-Fa proved to be homogeneous measures with Cronbach's α of .90. The PSS-Fa scale developed by Procidano and Heller consisted of 20-items, however, only 15-items were adopted for this study. This is because the remaining 5-items are adult-oriented and not suitable as indicators of adolescents' family social support. This 15-item scale consists of declarative statements to which the individual would answer "Yes", "No" or "Don't know". For each item, the response indicative of perceived social support would be scored as +1 so that scores range from 0, indicating no perceived social support, to 15, indicating maximum perceived social support. The "Don't know" category is not scored. Negative questions were reversed coded for analysis. The composite score was further categorised into low PSS-Fa = 0-8, medium PSS-Fa = 9-12 and high PSS-Fa = 13-15. The validity of the scale could not be assessed using CFA in this study because it is a dichotomous variable and model fitting in CFA is not applicable. The

reliability test shows that the scale is reliable for measuring PSS-Fa for the Ghanaian contexts (see Chapter Five).

- **Autonomy and Control**

Parents who promote their children to grow and articulate their opinions, concerns, and beliefs (autonomy) while retaining positive emotive bonds (acceptance) are reported to be more likely to have well-regulated children who cultivate a stable sense of identity (Barber, 1996; Eccles et al., 1997; Herman et al., 1997; Hauser Kunz & Grych, 2013). Accomplishing a balance between freedom and intimacy with parents is an extremely crucial task for children approaching adolescence as instituting a more autonomous sense of identity is a key developmental activity (Hauser et al., 1984; Hauser Kunz & Grych, 2013). Nevertheless, this balance can be disturbed when parents participate in high degrees of, especially, psychological control. In contrast to behavioral control, which encompasses parental monitoring and boundary setting (Steinberg, 1990), psychological control is characterised by efforts to control children's behaviour through manipulative or invasive behaviours for example, expressions of dissatisfaction and humiliation, nullifying or ignoring children's feelings or opinions, guilt orientation, condemnation, and threatening to retract love (Barber, 1996; Barber & Harmon, 2001; Hauser Kunz & Grych, 2013). This behavior dents children's rising autonomy by penalizing expressions of opinions, feelings, and practices viewed by parents as intolerable, and and substantial evidence posits that psychologically controlling parenting has harmful outcomes for adolescents' psychosocial adaptation (Barber et al., 2005).

Although psychologically controlling parenting is theorized to meddle with the advancement of autonomy, the link between parental practise of control and their endeavours to promote independence in their children has been studied rarely in Ghana

with exception of studies by Marbelle & Grolnick (2013) and Marbelle-Pierre et al. (2016). This is perhaps because of inability to discern these constructs conceptually and methodologically (Hauser Kunz & Grych, 2013). Too, often, many scholars have combined autonomy and control as a unit scale or treated autonomy as opposite measure of control (e.g., Schaefer, 1965a, 1965b; Morgan et al., 2012). In recent years, however, some scholars have called for the need for researchers to distinguish autonomy and control as individual constructs of parenting styles due to evidence suggesting that autonomy and control have unique effects on individuals' outcomes. Thus, calling for a re-evaluation of the correlation between particularly psychological control and autonomy support, contending that crucial distinctions between these constructs can be abandoned if they are merged into one scale (e.g., Barber et al., 2005; Hauser Kunz & Grych, 2013). According to Hauser Kunz and Grych, (2013), some analyses directly assessing the relationship between psychological control and autonomy support have affirmd these are indeed distinct but linked constructs. Addae (2020a) supported this academic debate by revealing that indeed, autonomy support and family control are different constructs of parenting styles and for that matter different constructs of familial social capital. In her study, these constructs related differently to the life satisfaction and happiness of Ghanaian adolescents. In this thesis, family autonomy and control are, hence, measured as distinct constructs of familial social capital as narrated below.

Family Autonomy Support (FAS): 'FAS' was measured based on 18 items adopted from Marbelle & Grolnick (2013) and Marbelle (2014). This multidimensional scale has been validated for the Ghanaian and US contexts (Marbelle-Pierre et al., 2017). The scale is hypothesised to consist of 4 dimensions - subscales derived by combining previous measures which tapped into four dimensions

of autonomy support. Six items measured perspective-taking (e.g., “my parents trust me’’), four measured choices granting (e.g. “my parents allow me to make my own choices for things I want to do’’), four measured decision making (e.g. “my parents allow me to decide things for myself’’), and four assessed open exchange (e.g. “my parents encourage me to give my ideas and opinions when it comes to decisions about me’’). There were five responses which were scored as follows: “not true at all (1)’’; “not true (2)’’; “true (3)’’; “very true (4)’’ and “(5) don’t know’’ which was not scored (see Appendix). The composite score ranged from 18-72 and was further grouped using quartile values as low FAS (18-42); medium FAS (43-52) and high FAS (53 - 72).

Family Control (FC): Family control as measured in this thesis represents controlling behaviour of parents over the adolescent that comprises dimensions of both psychological and behavioural control. The family control scale was adopted from the controlling parenting scale developed by Marbelle and Grolnick (2013) and Marbelle (2014) for measuring the parental controllingness of children in Ghana and the US. This multidimensional scale has been validated for the Ghanaian context (Marbelle-Pierre, 2017) and again validated in this thesis. To create the parental controllingness scale, items from the controllingness subscale of the Parenting Context Questionnaire (PCQ) (Grolnick and Wellborn, 1988) and the coercion subscale of the Parents as Social Context Questionnaire (PASCQ) (Skinner et al., 1986). The PCQ controllingness subscale consists of five items (e.g., my parents expect too much of me in school) and the PASCQ coercion subscale consists of four items (e.g., my parent boss me around). The combined scale employed in this study hence consisted of nine items. There were 5 response categories which were scored as follows: “not true at all (1)’’; “not true (2)’’; “true (3)’’; “very true (4)’’ and the fifth response “don’t know’’

was not scored (see Appendix). The scores ranged from 9-36 and were grouped as low FC (9-21); medium FC (22-26) and high FC (27-36).

School Autonomy Support (SAS): a new scale was developed in this thesis to assess SAS. It consisted of two statements: "My teachers listen to me and take what I say into account" and "at school, I have opportunities to make decisions about things that are important to me". The responses were "strongly disagree" (1) to "strongly agree" (5). "Don't know'' responses were not scored. The composite score ranged from 1-10. For bivariate analysis, the composite score was categorised into low SAS (2-5), medium SAS (6), and high SAS (7-10) using the quartile values from SPSS.

The validity and reliability tests show that the FAS, FC, and SAS scales were valid and reliable for analysis (see Chapter Five).

- **Peer-based Social Network (PSN)**

Research shows that characteristics of adolescent social networks affect several vital social outcomes including mental health (Prinstein 2007) and substance use (Ennett et al., 2006). Understanding adolescent peer-based network is hence important for health promotion. Adolescence marks a unique period when individuals seek to establish autonomy from their parents and develop independent identities (Marion et al., 2013; Viner et al., 2012). Therefore, the emergence of strong peer relationships is a part of normal adolescent growth and development. Peer relationships thus play an increasingly important role in individuals' health and well-being during adolescence, a time in which deep friendships materialise (Berndt, 2004; Brendgen & Vitaro, 2008). Close ties with peers can offer social networks through which social support can be derived by adolescents and studies indicate that students who feel more supported by their peers are more likely to be engaged in school and have more positive outcomes

(Shin et al., 2007). On the other hand, some of the downsides of social capital have been claimed to be the potential for social network formation by young people to stimulate risky behaviours such as peer bullying and gang formation and create health inequalities (Morgan, 2011). For instance, a study by Haas et al. (2010), found that poor health was negatively associated with the network (friendship) size of adolescents in the US.

Although studies contend the significance of social networks in influencing outcomes of young people, less research has been invested in exploring the relationship between characteristics of adolescents' peer-based social networks such as the size of the network and their health and health behaviours. This thesis, therefore assessed PSN based on the size of close friends/peers. The questions for assessing size of peer-based social network were adapted from the Global School-Based Student Health Survey (GSHS)- 2013 Core Questionnaire Module (GSHS, 2013) which assessed adolescents' size of close friends by asking them one question "How many close friends do you have?'' In this study, the same question was asked to assess friendship with both females and males separately. The participants were asked "how many male/female close friends do you have?'' The responses to the questions were coded as "0 = None'', "1= One'', "2= Two'', "3 = three or more'' and "4 = Don't know'' (not scored for analysis). The reported number of friends for the two questions was combined to obtain a composite score of 0-6. The composite score was categorised into 3 levels: low PSN = 0-3, medium PSN = 4-5 and high PSN = 6.

4.4.6 Sociodemographic Characteristics

Sociodemographic factors of family, school, and individual characteristics were included as covariates. Gender was coded as a dummy, 0 = female, 1= male; the age of the participants ranged from 13-16years. The age was further dichotomised: young

adolescents (1=13-14years) and older adolescents (2=15-18years). Participants were selected from four class levels of both Junior High School (JHS) and Senior High School (SHS): JHS 1, JHS 2, SHS 1, and SHS 2. These four levels were dichotomised into "1= basic (JHS1 and JHS 2)'' and "2 = secondary school (SHS 1 and SHS 2)'' for only cross-tabulation analysis. Religious affiliation was recorded as "1 = Christianity'', "2 = Muslims'', "3 = Traditionalist'' and "4 = Others''. Since most of the participants were Christians and less than 10% were Traditionalists, a dummy religion was created for analysis as "0 = Muslim/Traditionalists'' and "1 = Christians''. Geographical location was coded based on the ranking of the number of poor persons in the selected districts. Thus, "1= Wa West'', "2 = Wa East'', "3 = Jirapa'', "4 = Lawra'', "5 = Nadowli'', "6 = Wa Municipal'' and "7 = Daffiama''. Family structure was recorded as "1= single parent'', "2 = both parents'', "3 = stepparents'', "4 = family relatives'', and "5 = other'', and recoded as "0 = Single/stepparents/relatives'' and "1 = Biological parents''. Lastly, the participants were asked if they have been bullied in the past two months before the survey period, and responses were coded as: "0 = not bullied'' and "1 = bullied'' bullying was used as a control variable because of the evidence that bullying is related to alcohol intake and substance use among victims of bullying (Luk et al., 2010).

All measures and coding of variables as well as questionnaire can be seen at the appendix of the thesis.

4.5 Sampling Design and Approach

4.5.1 Selection of Study Area

The primary data employed in this study was collected as part of a broader project in 2018 focused on investigating the role of social determinants of young people's well-being, health, and health behaviours in Ghana. The study adapted the sampling

procedure design employed for the World Health Survey (2003) in which the primary sampling units (PSUs) were stratified by urban and rural locations. A similar design was employed by the Ghana Statistical Service (GSS) for the 2010 Population and Housing Census (GSS, 2012). With this approach, schools were considered as a community, and participating classes represented households. Considering the variation in socioeconomic status and population well-being indicators distributed in various districts of the Upper West Region, this study created three district-level estimates and provided pooled estimates for the whole region.

The research locations were hence selected to provide a wide representation of different sub-zones and districts, accounting for the population and socioeconomic features of adolescents. A multi-stage stratified random sampling procedure was used to select the districts and research communities (schools) to represent the huge disparities in heterogeneous sample features and cultural/ethnic and socioeconomic inequalities. Sub-regional zones were created as strata and then employed as a PSU. This probability sampling technique gave equal chances to every part of the region to be included in the study. It also ensured full representation of the whole adolescent population and sub-groups of the population and provided better statistical reliability.

The selection of the sampling strata involved 5 major stages. First, the Upper West Region was demarcated into three sub-regional sectors based on the Ghana poverty mapping (GSS, 2015): the low poverty incidence zone (Wa Municipal, Nadowli-Kaleo, and Sisala East), medium poverty incidence zone (Lawra, Jirapa, Daffiama-Bussie, Nandom, Lambossie) and high poverty incidence zone (Wa West, Wa East, and Sisala West) (see Figure 4.1). In the second stage, two districts were randomly selected from each of the low and high poverty incidence zones (zones), and

three districts were selected from the medium strata since it has the largest number of districts. This offered equal prospects for all districts to be selected.

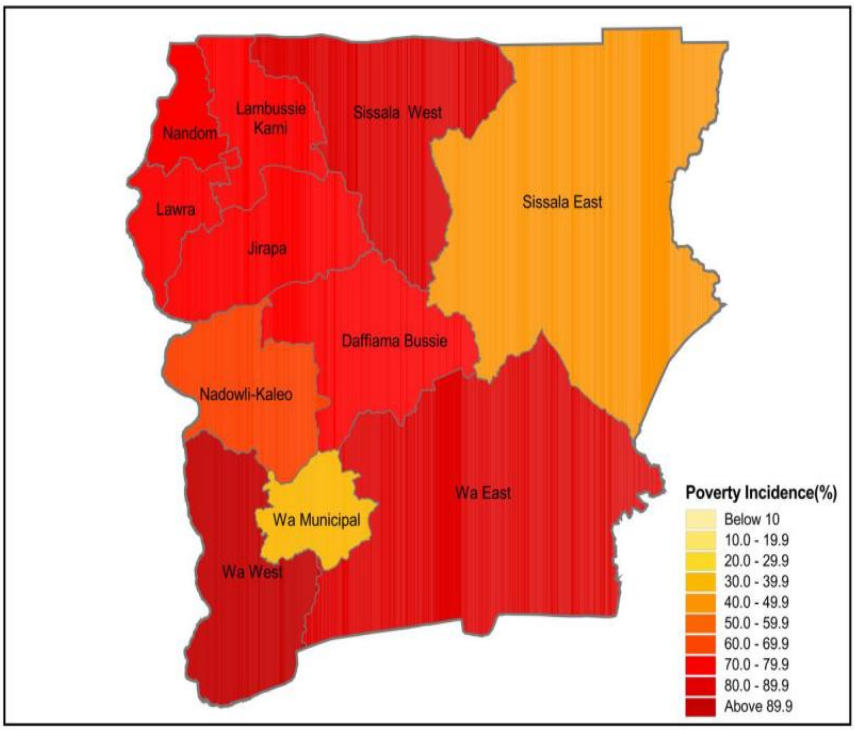

Figure 4.6: Poverty Mapping-Upper West District (GSS, 2015)

In the third stage, schools in each district were stratified into two groups, Junior High Schools (JHS) and Senior High Schools (SHS) as these two levels present the target age group and give a wider coverage of students in the region. One JHS and SHS were selected from each district based on a simple random sampling. The selection of study communities and Junior High Schools (JHS) was based on the location of the selected Senior High Schools (SHS) since not all the communities had SHS. For homogeneity in the sample, only mixed (boys and girls) public schools were selected because all the available SHS in the region were public schools.

In the fourth stage, SHS students were stratified into first-and second-year students, and finally, students were randomised proportionately based on the class sizes. Per the school's students register book, all the students, who were present and

within the age category qualified to participate in the study. The third-year students were not included since they had graduated during the study period. In the JHS, however, students were stratified based on class divisions (for example, in some schools, class levels were subdivided into groups using alphabets, and so they had Class One A, Class One B, Class Two A, Class Two B, etc.) and some class divisions were randomly selected to represent the school population. Thus, participants were selected from these selected classes once they met all the inclusion criteria for this study. In total, 7 districts and 15 schools (8 SHS and 7 JHS) were included in this study; three schools were, however, selected from the Wa East district due to the low sample size in the school. Thus, using two schools from the district would have limited the sample size drastically and reduced the representativeness of data from Wa East as compared to the other districts.

4.5.2 Study Participants

Although adolescent has been conceptualised as a person from age 10-19 years (WHO, 2017), adolescents aged 13-18year group were considered for this study. This is motivated by the fact that this age cohort depicts a critical transition in terms of how the adolescents think, feel, and interact socially. These changes strongly relate to development-compromising behaviours, such as disconnecting from family and school (Center for Disease and Control, 2017; UNFPA, 2017). These circumstances often potentially affect the well-being of adolescents. Moreover, in-school adolescents were recruited for this study because evidence shows that more than 70% of adolescents in Ghana were either receiving primary or secondary education during the study (GSS, 2013c). Furthermore, adolescents from poor and marginalised households, who might have been out of school are being enrolled in schools today due to the nationwide Free Education Policy rolled out in 2016. Targeting and enlisting in-school adolescents,

therefore, captured most of the adolescents with wide-ranging socioeconomic backgrounds in the study context.

Moreover, school-aged children are a population cohort that have until recently been overlooked by national and international public health researchers. The reason for this has been fairly related to the advice presented by morbidity and mortality statistics, which constantly identified school-aged children at the low point of the risk cycle, and absence of robust global political constituency promoting their health needs (Currie et al., 2000). However, over the years the WHO collaborative cross-national survey- the Health Behaviour in School-aged Children has played a progressively main position in advancing the youth health agenda in a course that delivers the evidence desirable for both reliable and operative governmental pronouncements influencing young people and educative social decisions, particularly across Europe (Currie et al., 2000). Despite the high increase in promoting healthy lives of in-school adolescents through evidence-based research and policy, research into the health and health behaviours of school-aged children/adolescents is limited in sub-Saharan Africa including Ghana. This dearth in scientific research, hence, motivated this study to focus on school-aged adolescents and utilise in-school adolescents as the unit of measurement for this study.

4.5.3 Selection of Study Participants

Quantitative Study: After randomly selecting the classes from which students can participate in the study, students who met the inclusion criteria including granted consent from guardians and parents were stratified into groups based on the class sizes in each of the fifteen selected schools, and some students were randomly selected to participate in the survey by questionnaire administration. The distribution of sample size among the selected schools was based on proportionate distribution using

respective school population sizes as a benchmark. After the sampling of qualified participants, a huge, representative sample size of 2,068 from the schools was selected out of the total 207,865 population of adolescents. The sample selected made up a proportion of about 1% of the total adolescent population (GSS, 2013a). This sample size selection is based on the WHO's approved sample size estimation formula (Lwanga & Lemeshow, 1991).

Table 4.1: Proportional Distribution of Study Sample to Study Districts-Cross-sectional Survey

Sub-regional zone	Selected districts	Selected number of schools	Selected population
Low poverty zone	Wa Municipal	2(1 SHS, 1 JHS)	300
	Nadowli-Kaleo		300
Medium poverty zone	Lawra		300
	Jirapa		298
	Daffiama-Bussie		298
High poverty zone	Wa West		299
	Wa East	3 (2 SHS, 1JHS)	273
Total	**7**	**15**	**2,068**
Total population of adolescents in the region = 207, 865. Total number of districts in the region = 11			

Source: Addae (2019)

Qualitative Study: Focus group discussion was steered with adolescents chosen from participants of the cross-sectional study (N=2068; 13-18years) in 15 schools in 7 districts of the Upper West region of Ghana. Purposive sampling was employed to choose the participants for the focus group discussion which included 14 out of the 15 schools. The criteria for inclusion were: 1. the student should have taken

part in answering the quantitative survey questionnaire. 2. One male and one female student who face challenges in addressing school financial obligations (less privileged adolescents). 3. One male and one female student who do not face challenges in addressing school financial obligations (privileged adolescents). The sampling criteria was to obtain diverse opinions from adolescents of different gender, socioeconomic and educational backgrounds. Overall, 56 students (a four-member group per school comprising two males and two females per group) were chosen by their headmasters to participate in the focus group discussions.

Table 4.2: Proportional Distribution of Study Sample to Study Districts-Focus Group Discussion

Sub-regional zone	**Selected districts**	**Selected number of schools**	**Selected population**
Low poverty zone	Wa Municipal	2(1SHS,1 JHS)	8
	Nadowli-Kaleo		8
Medium poverty zone	Lawra		8
	Jirapa		8
	Daffiama-Bussie		8
High poverty zone	Wa West		8
	Wa East	2(1SHS, 1JHS)	8
Total	**7**	**14**	**56**

Total population of adolescents from which the sample was selected = 2068. Total number of districts = 7

4.5.2 Data Collection Procedure

4.5.2.1 Reconnaissance Survey and Overview of Study Procedures

The quality and usefulness of information obtained from the field; a one-day reconnaissance visit was undertaken by the researcher before the start of the survey in each of the selected schools within different districts. This was done to introduce the study and for the researcher to familiarise herself with the schools' authorities and teachers. During this visit, an approval letter from the Ghana Education Directorate-Upper West region requesting support from the headmasters of the selected schools is presented to the school headmasters as evidence that this study has been approved to take place in their schools. After the headmasters accepted to offer their support for the study to take place in their respective schools, an agreement was established between the school headmasters on the appropriate date for the study to be done in the schools as well as the appropriate venue in the school where the survey can be carried out. The headmasters were also requested to help select the participants for the focus group discussions based on a set of inclusion criteria provided by the researcher. Meeting the school authorities also provided the opportunity for the researcher to explain the aim of the study to the students and prior inform them of the study to be carried out in their respective schools on selected dates. With permission from the school authorities, informal discussions were carried out with some of the student-volunteers to ascertain their awareness of some key concepts included in the questionnaires. This was to provide a clue as to how much interpretations and guidance will be needed by the students during the questionnaire administration and focus group

discussions. This was also meant to create a friendly relationship between the researcher and the students before the study to make them feel comfortable during the study; thus, bridging the power gap between the researcher and the students.

Moreover, with requests made from the researcher to the school headmasters, some teachers were appointed by the headmasters to support and oversee the welfare of the students during the questionnaire administration. The selected teachers were present throughout the sampling of participants as well as during the questionnaire administration. The presence of the teachers was really helpful for the successful completion of the data collection as it appeared the students-participants expressed good relationships with their teachers, hence, feeling more secure and less tensed to answer the questions in the presence of 'strangers' (researcher and research assistant). Another purpose of the reconnaissance survey was to deliver the parent consent forms to the students to be given to their parents/guardians at home. Parents who would not allow their children to participate in the study were to return the consent form to the researcher through their child with their signature on the day of the actual survey. With help from some appointed teachers, in classrooms that were randomly selected, all students within the required age group (13-18years) were given the parent consent form to be delivered to their parents. After the reconnaissance survey in all the schools, one school was randomly selected from the region to use as the pilot study site. After the pilot study, which involved 50 students, this school was excluded from the actual study because the pilot study revealed that the majority of the students drastically exceeded the required age. The purpose of the pilot survey with some student volunteers was to ascertain whether there was a need to re-phrase some of the questions in the questionnaire and which questions will need further explanation or interpretation during the questionnaire administration so no data entry for analysis was necessary.

One research assistant who is a native of the Upper West region was recruited and trained in the data collection procedure as well as on the ethics of the research. The research assistant accompanied the researcher to all the schools during the reconnaissance surveys as well as during the data collection. The research assistant also acted as an interpreter during the questionnaire administration and the focus group discussions. His experience as a pupil-teacher and familiarity with students and other teachers in the region made it easier for him and the researcher to adopt the best communication approaches that were suitable for the comfort of the students and in supervising the students throughout the sampling procedures as well as the data collection.

The appointed teachers assisted in the sampling of eligible students and organising the students at the venue for the survey to take place. In some schools, classrooms were used while in other schools, the assembly halls were used for both the questionnaire distribution and focus group discussions.

The teachers as well as the researchers ensured the participants of their power as research participants and did their best to prevent any power gap between them and the participants. This allowed the participants to easily ask questions and strike conversations with the researchers. The confidentiality and anonymity of their data as well as their choice to volunteer in the study or opt out of the study at any time was continuously explained to them throughout the entire study procedures. This created a sense of security and trust for the students with the researchers, thus, generating an enabling environment for an effective selection of student participants and participation in the study.

- **Cross-sectional Survey**

The questionnaire was administered to the 2068 adolescents and was anonymous and self-administered. It was designed to exclude any information that would expose the identities of the participants. The researcher provided the necessary stationery for them to use in the study for the sake of those who may not have the required tools such as pencils during the survey. Before the start of the survey, all eligible participants were briefed on the details, anonymity, and ethics of the research, and signed consent/assent forms. Although due to the participants' age, their parents/guardians are to give consent for their participation, to promote their autonomy and control, they were required to sign consent forms before they could start answering the questionnaire and participating in the focus group discussion. This is to ensure their full self-willingness to participate in the study. Therefore, the exclusion criteria included students outside the age range (13-18years), students whose parents/guardians did not give consent, and students unwilling to participate or sign consent forms before the beginning of the study.

The administration of the questionnaire and answering were supervised by both researchers and teachers appointed by the school principals to oversee the welfare of their students. When students had difficulties understanding a question, it was translated into their local dialect by the research assistant. It took about 45minutes for all to finish answering the questionnaire in each school, though some participants finished earlier. Participants were given a token of a pencil each as compensation for their time. For the purpose of the qualitative study, preliminary data analysis using descriptive statistics of the survey questionnaire in SPSS was carried out to guide the researcher in developing the questions for the focus group discussions for the qualitative study. Data cleaning and recoding and management of missing data were

done after the entire study. Statistical analyses employed in the cross-sectional study are elaborated under the section ‘statistical analyses’.

- **Focus Group Discussion**

The discussions were carried out in the selected schools, at comfortable venues designated by the school authorities. It involved a total of 56 in-school adolescents selected by their school headmasters. The discussions were carried out in English because English is the official language for communication in all schools in Ghana and as such students are expected to speak English in schools. Irrespective of this, additional interpretations in the local dialect of the region were provided on an individual request basis by the research assistant. Before the discussion, the participants were informed about the discussion, confidentiality, anonymity, and their rights to forgo the discussion whenever they decide to. Pseudonyms were utilised and their consent to audio record the conversation was requested. A safe and conducive atmosphere was created to guarantee that the participants were under no pressure and worry when sharing their experiences. The interviewer provided emotional support as and after they talked, and constantly prompted the participants that of the right they possess to decide to share their stories and were not obligated to keep on speaking if they felt overwhelmed by the experiences that they were revealing. Because the participants had taken part in the quantitative survey, they were notified that the discussion concerned several topics which intended to further investigate some questions that arose out of their responses to some of the questionnaires. Thus, follow-up questions were raised to invite the participants to elaborate on their responses given.

Participants were urged to provide details of their own and peers’ experiences for each of the questions asked in the discussions. When they shared their peers’ experiences, they were questioned about their relations with their peers to verify they

were not stating rumors. On average, the discussion took around 50 minutes. The participants were thanked for their time and compensated with snacks and pencils for their participation. Further details are provided in Chapter Eleven of this thesis.

4.6 Data Analysis

4.6.1 Quantitative Study

Data coding was done in SPSS version 23 followed by data entry. Before the data analysis, the obtained data were thoroughly cleaned by the researcher and the research assistant by going through each of the answered questionnaires to ensure that uncompleted answered sheets are excluded. Where appropriate, all those with 'don't know' responses and missing data were excluded from the scoring of composite scales. Inconsistencies and outliers were determined by using descriptive statistics to check for abnormalities in mean values. The validity and reliability of all scales employed were carried out using CFA, EFA, and Cronbach alpha test in SPSS version 26 before the actual analysis as presented in chapter Five of this thesis.

Univariate analysis using descriptive statistics was done to present a summary of the sample distribution. To describe the population, categorical variables were analysed and presented as frequencies and percentages, and continuous variables were analysed and presented as means with standard deviations. Bar charts were used for graphical presentations of the outcome variables.

Secondly, bivariate analysis using Cross-tabulation and Chi-square analysis was conducted to identify variations in the health outcomes and health behaviours of the participants regarding the various categories of the sample distribution. Thus, an examination of variations in the dependent variables to the participants' SDCs and social capital constructs employed in the study at a significant level of $p<.005$ was done. Spearman correlation matrix analysis was also conducted to determine the

relationships and directions of the relationships between the dependent and key independent variables. All correlations were conducted at a significant level set at $p < .005$ and a two-tailed test of significance.

Thirdly, multivariate analysis using Structural Equation Modelling (SEM) in the SPSS-AMOS version was employed. SEM was used for the multivariate analyses because unlike other multivariate analytical tools in SPSS such as logistic regression, SEM allows simultaneous analysis of all the variables in the model instead of separately. Thus, SEM allows both the direct and indirect relationships (mediation analysis) between variables as well as correlations among all the employed variables to be analysed simultaneously in the same model. SEM also allows interaction effects among independent variables on the outcome variable to be analysed (moderation analysis) in the same model. Moreover, SEM is noted to allow the analysis of complex mechanisms that exist among many variables. Again, SEM allows the analysts the opportunity to adjust the correlations among the variables in the model until a goodness-of-fit of the model has been achieved, offering a suitable analysis fitting the sample to be achieved. This allows robust testing of the goodness-of-fit of the dataset employed in a particular analytical model. Concerning SEM techniques are various methodologies, incorporating covariance-based and variance-based methods. Covariance analysis is also referred to as confirmatory factor analysis (CFA), causal modelling, causal analysis, simultaneous equation modelling, or path analysis. Therefore, path analysis and CFA are unique kinds of SEM employed in this study.

Specifically, path analysis in SEM was employed for this study's multivariate analyses. This is because this study seeks to explore various pathways to adolescents' health and health behaviours. Moreover, the path analysis allows the analysts to design their analytical models for the analysis as well as allows both direct and indirect

relationships to be established among the employed variables simultaneously in the same model. Therefore, path analysis in SEM was used to first estimate the predictive ‘‘power’’ of the independent variables on the five dependent variables, namely health status, multiple health complaints/psychosomatic symptoms, satisfaction with self-confidence, physical activity, and multiple health risk behaviours. The analysis used regression weight analysis to first determine the direct and total effects of SES on the health and health behaviour outcomes and social capital indicators, as well as the direct effect of the social capital indicators on the well-being outcomes. The covariates were employed in all the path analyses. The continuous variables-composite scores of the key variables were used in the analyses. Although SEM allows various models to be analysed simultaneously with different dependent variables, because of the many independent and dependent variables employed in this study, running all the analyses in one model reduced the model goodness-of-fit. As such, five different analyses were carried out with respect to each dependent/outcome variable (Model 1 to Model 5). Model 1 comprises the mediation analysis involving SES, social capital, and self-rated health. Model 2 comprises the mediation analysis involving SES, social capital, and multiple health/psychosomatic symptoms. Model 3 comprises the mediation analysis involving SES, social capital, and satisfaction with self-confidence. Model 4 comprises the mediation analysis involving SES, social capital, and physical activity status. Model 5 comprises the mediation analysis involving SES, social capital, and multiple health risk behaviours.

A bootstrap sample of 5000 was utilised to determine the potential mediators of the relationship between the independent variable and the dependent variables (health and health behaviours). This means that the analysis was run repeatedly within the analytical tool by randomly employing 5000 bootstrap samples to generate the

results. This analysis was done to determine the indirect effect of SES on health and health behaviours through social capital at a bias-corrected confidence interval of 95% with maximum likelihood estimation- unstandardised estimates.

The mediating effects of the supposed mediators (FSB, FAS, FC, PSS-Fa, SSB, CSB, and PSN) were confirmed by using the lower and upper limit values of the confidence intervals. The assumption is that the interval between the lower and upper limit should not contain a 0 value. Thus, to count from the lower limit value to the upper limit value, 0 should not be between the values. Hence, both the lower and upper limit values should have the same direction sign, either both are positive values, or both are negative values. For example: if the indirect effect of SES through FSB has a lower limit = -.0027 and upper limit = .0028, then it is concluded that FSB has no mediating effect since the directions are not the same (-ve and +ve) and they contain 0 between them (employs the concept of a number line).

Moderation analysis was also done in SEM-AMOS-SPSS at a bias-corrected confidence interval of 95% with maximum likelihood estimation- unstandardised estimates. One moderated model was used for the moderation analysis involving all five dependent variables simultaneously. In this model, both unmoderated and moderated effects of SES and social capital on the health and health behaviour outcomes were examined. The model fitting was confirmed before running the analysis. The interaction plots were done using Excel.

The specific analytical approaches and model fitting tests are presented in Chapter seven to Chapter ten.

4.6.2 Qualitative Study

The recorded audios from the discussions were transcribed verbatim, and the thematic content analysis strategies outlined by Braun and Clarke (2006) were employed to identify themes arising from the discussion. The researcher undertook open coding where a line-by-line reading of the data was conducted to code interview excerpts related to the key research questions. Where necessary, confirmation of interpretation was sought from the research assistant for consistencies in interpretations and coding. Several codes were then developed to represent various dimensions of the main themes derived based on the key research questions. Specific analyses are presented in Chapter Eleven.

4.7 Ethical Considerations

Ethical clearance for the study protocol was obtained from the School of Medical Sciences and Komfo Anokye Teaching Hospital Committee on Human Research, Publication, and Ethics in Ghana since the study data collection took place in Ghana. An approval letter for data collection was also obtained from the Upper West Regional Director of Education and the Upper West Regional District Directors of Education. The study protocol again was approved by the Chief supervisor and the Research Ethics Sub-Committee of Lingnan University in Hong Kong.

Further approval was obtained from the principals of the various involved schools and consent from parents and guardians of the selected participants was obtained through the distribution of parents and guardians' consent forms. Parents or guardians who did not allow their children to participate in the study returned the consent forms through their wards. To ensure that ethical concerns were addressed, before the commencement of the survey, the research details, and ethical concerns such as informed consent, confidentiality, and anonymity were clarified to the respondents

by the researcher. This was done by providing respondents with a verbal explanation of their rights about the study and then asking them to sign a consent form. The power difference between the researcher and participants was appropriately dealt with to ensure that the participants were in control of their participation in both the survey and focus group discussions. During the focus discussions, any issues that will cause discomfort to the participants were avoided. It was hoped that this would help allay any concerns of the respondents and as a result, increase the possibility of obtaining genuine responses from the respondents.

CHAPTER FIVE

VALIDITY AND RELIABILITY TEST ANALYSIS OF QUANTITATIVE MEASUREMENT INSTRUMENTS

5.1 Introduction

Before proceeding with data analysis, data were screened for missing values. All the participants with missing values and 'don't know' responses were excluded from the analysis. This is because SEM does not allow modification indices and goodness of fit indices (GFI) to be estimated when the dataset contains missing data. As such, the total number of participants who participated in the survey categories (2068) was reduced to 1206. This study's key analyses, therefore, involved a 1206 sample size.

To confirm the validity and model fit of the measurement scales employed in the quantitative study, Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA), and Cronbach Alpha test were conducted in SPSS where appropriate. EFA is recognised as a data-driven technique and CFA is a theory-driven technique. It is hence proposed that the practice of EFA or CFA must be accurately considered and selected based on the aim of a study, "*and aimless application of EFA and CFA to the same dataset should be avoided*'' (Hurley et al., 1997; Kim et al., 2016pg6). One can explore the latent variable structure of a dataset with EFA. On the other hand, CFA requires established hypotheses or previous theories as CFA is a hypothesis testing method that tests whether the obtained dataset is suitable for a model (Hurley et al., 1997, Kim et al., 2016). Therefore, in this study, CFA was employed to discuss the model fit of the dataset obtained from the various social capital scales that have been hypothesised to consist of several constructs (sub-scales/factors) or are multidimensional scales. These scales include the family autonomy support scale, family control, family sense of belonging, and school sense of belonging scale. EFA

was used to extract the new factor structures of new social capital scales developed purposely for this study. Thus, to examine whether the scales load onto one factor as suggested in this study. CFA for these scales could not be done because these scales did not have the required number of items which resulted in SEM not been able to compute the model fits of the scales.

Generally, to check the reliability and validity of the measurement scales employed in the study, scale reliability and validity tests were conducted using SPSS to determine the model fits, robustness, and internal consistencies of the scales by employing CFA, EFA, and Cronbach alpha test. For the validity test, various CFA in AMOS- Structural Equation Modelling (SEM) using full information maximum likelihood estimation was conducted. Several models fit indices and their criteria were used to examine the Model fit with the given dataset: goodness-of-fit index (GFI) (>.90), comparative fit index (CFI) (>.90), root mean square error of approximation (RMSEA) (< .08), Chi-square statistic test, and standardised root mean residual (SRMR) (< .08). Acceptable model fit is recommended by a nonsignificant Chi-square statistic and scores above .9 for the GFI, CFI, and below .08 for the RMSEA and SRMR (Meyers et al., 2006).

EFA was also conducted to create two new scales (community sense of belonging and school autonomy support) with maximum likelihood factoring. Maximum likelihood and principal axis factoring are commonly proposed extraction methods (Kim et al., 2016). Extracted factors were rotated by oblique rotation because the factors in the scales are assumed to be related (Marbelle, 2014). Also, according to various researchers, oblique rotation is constantly the safest approach because factor intercorrelations are the standard in social sciences (Costello & Osborne, 2005).

Although, it is suggested that factor loadings < .40 are weak and factor loadings

≥ .60 are strong (Garson, 2010; Awang, 2014; Cabrera-Nguyen, 2010), in this study's CFA and EFA, all the items with factor loadings less than 0.6 were not deleted or excluded from the model. An item having low factor loading means that a particular item contributes relatively little to the set of measured variables or is characterised by small loading sizes (Briggs & MacCullum, 2003). A possible reason for such low factors loading could result from ambiguous wording of the items resulting in a high measurement error and a small percentage of common variance, prompting the need for deleting such factors. However, according to scholars, in some circumstances, estimating weak factors is crucial and the unreliability problem is inevitable if the items are properly written as is the case in this study (Ximénez, 2009:2016). Empirical evidence indicates that all the proposed items combine to form certain constructs, meaning that there is no theoretical support/evidence that the sub-factors in question are not very much recommended to the proposed framework/model, hence, they were not deleted (Ximénez, 2009:2016). It is also possible that the theoretical model may consist of both strong and weak factors (Ximénez, 2009). Moreover, it is recommended that the researcher may not delete low factor loadings if the fitness indexes for that measurement model already achieved the required level (Index Category and level of acceptance) which was so in the case of this study. Thus, generally, keeping 'unacceptable' items in the model would have affected the fitness index of the models.

The detailed steps employed in the EFA, CFA, and Cronbach alpha tests and the statistical results of the analyses are presented as follows:

5.2 Family Sense of Belonging (FSB) Scale

The family belonging scale was proposed to consist of four items. The FSB scale is a new scale that was created by Addae (2020) for the Ghanaian context by combining

four items selected from other existing scales (see Addae, 2020a). The reliability of the scale tested by employing 2068 Ghanaian adolescents was reported by Addae (2020) as α =.74. In this study, the CFA of the scale using 1206 adolescents indicate that the scale is valid, and the model is fit for analysis. The Model showed good model fit, Chi-square = 16.058, df=2, p < .001, CFI = .988, GFI=.993, RMSEA = .076, and SRMR = .0198 (see Figure 1). The reliability of the scale using 1206 adolescents was α =.771.

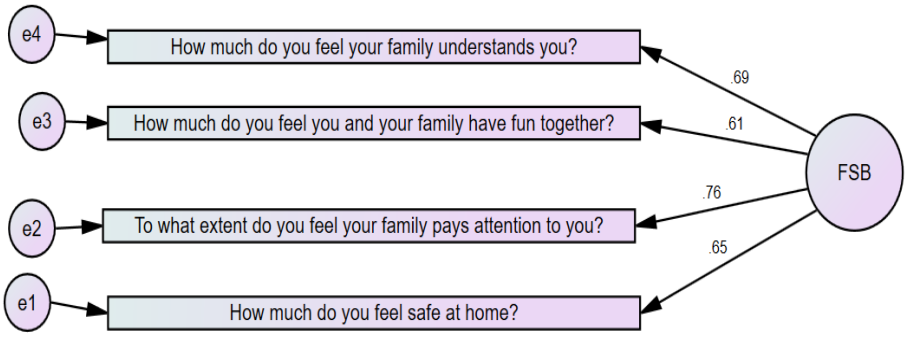

Figure 5.1. Constrained measurement model for family sense of belonging with standardised estimates. Model fit: χ^2 =16.058, df=2, p < .001, CFI = .988, GFI=.993, RMSEA = .076, and SRMR = .0198.

5.3 Family Autonomy Support (FAS) Scale

Regarding autonomy support, Addae (2020) reported that the family autonomy support scale consists of eighteen items that were selected from various measures of autonomy granting scales as identified by Marbelle (2014) and Marbelle-Pierre et al. (2016). The composite FAS scale was reported to have a Cronbach test reliability value of .87 using a sample of 2068 Ghanaian adolescents. In this study, it is, therefore, hypothesised that the scale is a multidimensional composite scale of the 18 items and can be used to effectively measure family autonomy support. The scale was hence validated in this

study by employing data from 1206 Ghanaian adolescents using CFA, to confirm if the combined items form a fit model for measuring FAS. The results of the model fit show that the FAS composite scale is indeed valid and a good fit to measure the FAS of Ghanaian adolescents. Although some of the items showed low factor loadings (< .6), they were not excluded from the scale because a model fit was already achieved after correlating some of the items (see Figure 1). Thus, even with their inclusion, all the loadings of the 18 items were significant and achieved a model fit; Chi-square = 912.475, df=124, p < .001, CFI = .908, GFI=.919, RMSEA = .073 and SRMR = .068. In this study, the reliability of the scale was α =.894.

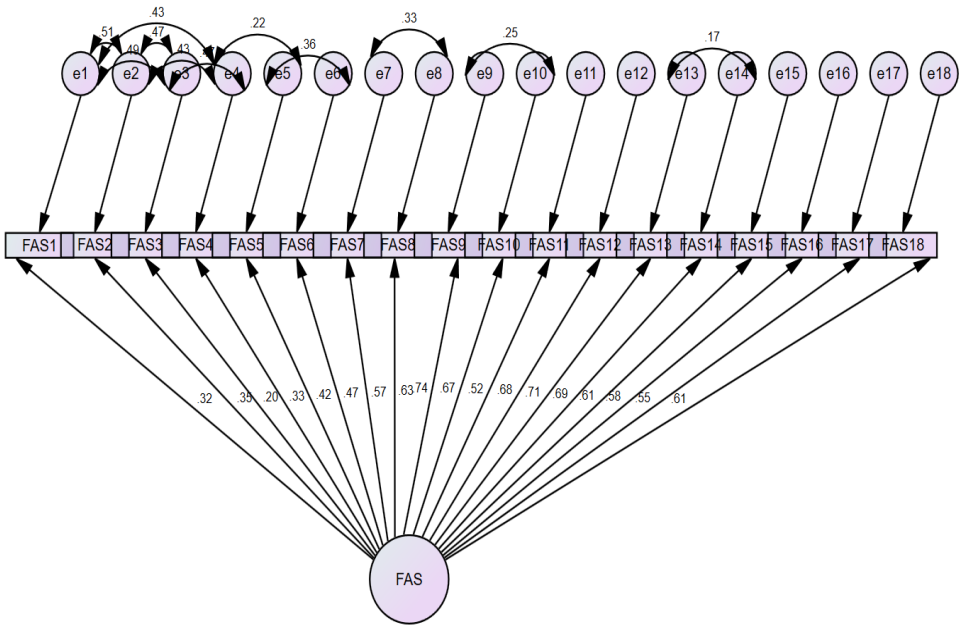

Figure 5.2. Constrained measurement model for family autonomy support with standardised estimates. Model fit: χ^2= 912.475, df=124, p < .001, CFI = .908, GFI=.919, RMSEA = .073 and SRMR = .068.

5.4 Family Control (FC) Scale

The family control scale was hypothesised to consist of nine items adopted from the FC scale proposed by Marbelle (2014) and Marbelle-Pierre et al. (2016). Addae (2020)

confirmed the reliability of the FC scale for Ghanaian adolescents, α =.73 by employing 2068 adolescents. The composite scale was suggested to consist of dimensions of both psychological and behavioural parental control. The validity of the scale tested using CFA shows that the FC scale is valid for this study using 1206 in-school adolescents. All factor loadings were significant, and a model fit was achieved after correlating some of the items (see Figure 1). The Model showed good model fit, Chi-square= 138.698, df= 17, p < .001, CFI = .941, GFI=.977, RMSEA = .077, SRMR = .048. The reliability of the scale using 1206 adolescents was α =.736.

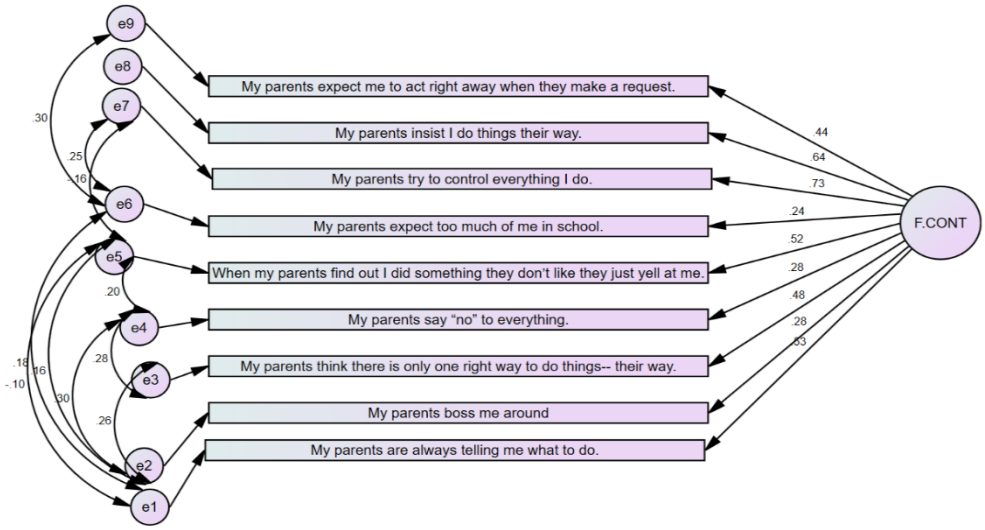

Figure 5.3. Constrained measurement model for family control with standardised estimates. Model fit: χ^2=138.698, df = 17, p < .001, CFI = .941, GFI=.977, RMSEA = .077, SRMR = .048.

5.5 School Sense of Belonging (SSB) Scale

The SSB scale is a new scale that was created by Addae (2020) for the Ghanaian in-school adolescent context by employing 2068 in-school adolescents. The scale was suggested to consist of six items that capture dimensions of the school environment, support from teachers, and classmates. The reliability of the composite scale was

reported to be α = .72. In this study, the scale was validated using CFA with 1206 in-school adolescents and the result shows that the scale is valid. Although some of the factor loadings were weak, they were not excluded from creating the composite scale used in this study's analyses (see Figure 1). All factor loadings were significant, and the model was a good fit after correlating some items in the model; Chi-square= 40.857, df= 5, p < .001, CFI = .973, GFI=.989, RMSEA = .077, SRMR = .035. The reliability of the scale using 1206 adolescents was α =.712.

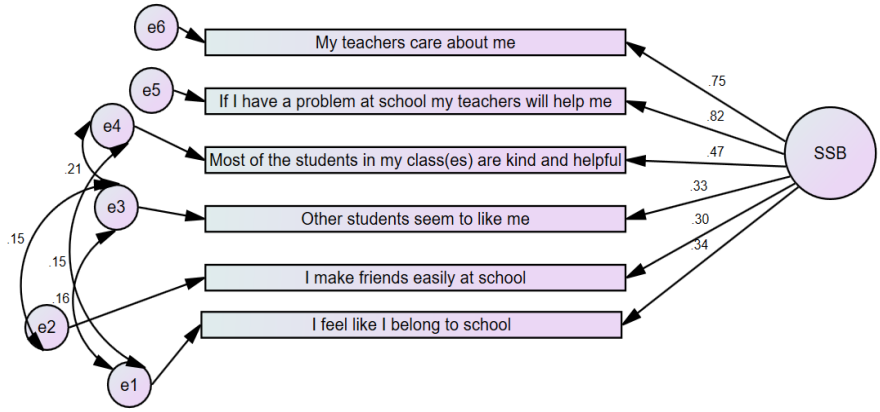

Figure 5.4. Constrained measurement model for school sense of belonging with standardised estimates. Model fit: χ^2 = 40.857, df= 5, p < .001, CFI = .973, GFI=.989, RMSEA = .077, SRMR = .035.

5.6 Socioeconomic Status (SES) Scale

The SES scale adopted from Addae (2020a) consists of 8 items proposed to comprise dimensions of housing characteristics and home appliances (Doku et al., 2010). The reliability of the scale reported by Addae (2020a) involving 2068 adolescents was α = .72. the CFA of the scale in this study shows that the scale is indeed valid to measure the SES of Ghanaian adolescents. Although some of the factor loadings were weak, they were not deleted from the composite scale used in this study's analyses (see Figure 1). All factor loadings were significant, and the model was a good fit; Chi-

square= 160.906, df= 20, p < .001, CFI = .915, GFI=.965, RMSEA = .078, SRMR = 045. The reliability of the scale using 1206 adolescents was α =.723.

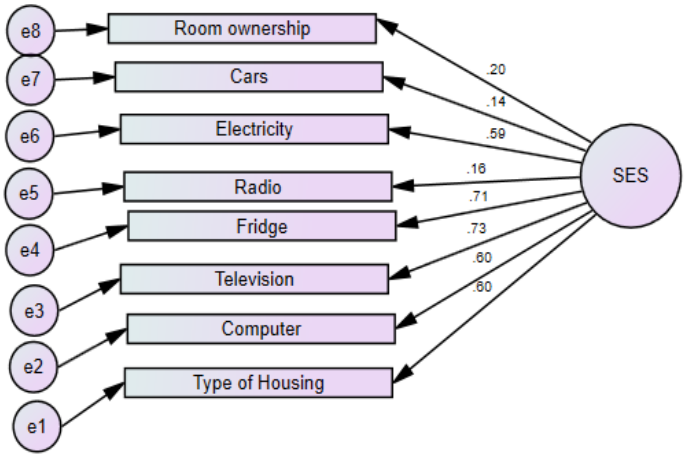

Figure 5.5. Constrained measurement model for socioeconomic status with standardised estimates. Model fit: χ^2 =160.906, df= 20, p < .001, CFI = .915, GFI=.965, RMSEA = .078, SRMR = 045.

5.7 Community Sense of Belonging (SSB) Scale

The CSB scale is a new scale created for analysis in this thesis. As such, EFA was used to explore the factor loadings of the items and the number of constructs making up the scale. The extraction of factors was done using Principal Axis Factoring. The factors loaded into one factor. The first factor had an eigenvalue of 1.772 (59% of explained variance), the second, .728 (24% of explained variance), and the third .500 (17% of explained variance). The factor loadings were all above .40 showing that the three factors loading are not weak. The Kaiser-Meyer-Olkin measure of sampling adequacy value was .625 and Bartlett's Test of Sphericity was significant at .000. The pattern of factor loadings is presented in Table 5.7.1. The validity and Model fit of the scale in CFA could not be tested. This is, because the degree of freedom and Chi-square statistics in the Model was 0, which resulted from using only 3 items in the Model.

Thus, the Model was saturated, and probability could not be computed (Dijkstra, 1992). The Cronbach Alpha reliability test of the scale was .660, approximately .70 which shows that the scale is reliable for analysis considering that it is a newly developed scale.

Table 5.1. Factor Loadings for Exploratory Factor Analysis of Community Sense of Belonging Items in Ghana	
	Factor Loading
	1 Factor
1. The community leaders and assemblymen ask children and young people their opinion about things that are important to them	**.464**
2. In my area there are enough places to play or to have a good time	**.794**
3. I feel safe when I walk around in the area, I live in	**.639**

5.8 School Autonomy Support (SAS) Scale

The SAS scale is also a new scale created for analysis in this thesis. Therefore, EFA was used to explore the factor loadings of the items and the number of factors making up the construct/scale. The extraction of factors was done using Principal Axis Factoring. The factors are loaded into one factor. The first factor had an eigenvalue of 1.395 (70% of explained variance) and the second, .605 (30% of explained variance). The factor loadings were all above .60 showing that the two factors loading are strong. The Kaiser-Meyer-Olkin measure of sampling adequacy value was .500 and Bartlett's Test of Sphericity was significant at .000. The pattern of factor loadings is presented in Table 5.8.2. The reliability of the scale was .565, approximately .60.

Table 5.2. Factor Loadings for Exploratory Factor Analysis of School Autonomy Support Items in Ghana	
	Factor Loading
	1 Factor
1. My teachers listen to me and take what I say into account	**.628**
2. At school I have opportunities to make decisions about things that are important to me	**.628**

CHAPTER SIX

QUANTITATIVE STUDY

DESCRIPTIVE AND BIVARIATE ANALYSES OF SCHOOL-AGED ADOLESCENTS' CHARACTERISTICS

This chapter is separated into two sections. The first section (Section 6.1) examines and discusses findings related to the descriptive analysis of the sociodemographic characteristics of the study participants and the bivariate analysis between the participants' sociodemographic factors and their health and health behaviour outcomes. The second section (Section 6.2) presents the examination and discussion of the participants' health and health behaviour characteristics as well as the bivariate analysis of the participants' SES, social capital, and health and health behaviour outcomes.

6.1 Sociodemographic Factors, Health, and Health Behaviours

6.1.1 Introduction

While included in the focus of this study is not to examine sociodemographic effects on adolescents' SES, social capital, health, and health behaviours, this study brings to the public's attention the potential influence that sociodemographic characteristics (SDCs) can have on adolescents' developmental outcomes. The disparities in SES, social capital, health, and health behaviours of populace due to particularly personal, family, school, community, and regional demographics have been mirrored by various theories such as the bio-ecological system theory, social capital theories, gender theories, etc., that stem from diverse disciplines including psychology, sociology, public health, social policy, etc (Bronfenbrenner, 1979; Coleman, 1988; Bourdieu

1986; Putnam, 1993; WHO, 2008; Morgan 2010; Hammarström & Hensing, 2018). Subsequently, various studies have upheld that indeed adolescents' health and health behaviours are affected and vary by sociodemographic factors such as age, gender, family structure, and region (e.g., Currie et al., 2012; Inchley et al., 2016).

The significant influence of SDCs on individuals' outcomes suggests a need for researchers to control for SDCs when researching the relationships among SES, social capital, and health and health behaviours. Nevertheless, despite the claims from various theories and evidence from several studies, scarce insight has been offered into the sociodemographic variations in school-aged adolescents' health and health behaviours, especially, in Ghana. Offering a broader insight into the sociodemographic effects and variations in school-aged adolescents' outcomes simultaneously allows for inclusive assessment of the relationships among diverse variables as it enables a wide array of confounding variables to be accounted for in complex statistical analysis such as mediation and moderation analysis. This also allows for comprehensive policy recommendations regarding which segments of the adolescent population are facing inequalities in health and health behaviours in Ghanaian societies.

This section first presents the univariate-descriptive analysis of the SDCs of school-aged adolescents who participated in the study. Secondly, to examine the association between SDCs and adolescents' health and health behaviours, it presents in a bivariate analysis, the correlation between SDCs and school-aged adolescents' health and health behaviours. Finally, to examine the variations in adolescents' health and health behaviours, cross-tabulation Chi-square analyses between SDCs and school-aged adolescents' health and health behaviours are presented.

6.1.2 Statistical Methods

6.1.2.1 Measures

The outcome or dependent variables in this study are health and health behaviours. Health outcomes employed are self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS) (comprising a composite score from headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours are health-promoting behaviour (physical activity (PA)) and health risk behaviour (multiple health risk behaviours (MHRB) (comprising a composite score from sexual health, bullying, alcohol use, substance use, and smoking)). The main independent variables (sociodemographic factors) employed in this chapter are gender, age, religion, family structure, geographical location of schools, class level, and bullying. The specific approach for measuring these variables can be referenced in the methodology section of this thesis.

6.1.2.2 Analytical Methods

First, to present an overview of the participants' characteristics, descriptive statistics in SPPS univariate analysis was conducted for the study sample of 2068. The participants' characteristics that are in categories were presented by their frequencies and percentages. For characteristics in a continuous format, the range, mean and standard deviation were presented. To examine associations among the variables, Spearman correlation matrix, and Cross tabulation-Chi Square analysis was carried out using SPSS involving 1206 participants after excluding all missing values and

those with don’t know responses. The correlation analysis was to show the association between the SDFs and the participants' outcomes. Cross tabulation-Chi Square analysis was done to reveal the variations existing between the participants' SDFs and their health and health behaviours. While the correlation analysis employed the continuous variables (composite scores) of the outcomes, the Cross-tabulation and Chi-square analysis employed the categorised variables derived from the outcome variables (the outcomes were dichotomised) as explained in the methodology section. The statistical significance of the correlation and Chi-square test were determined at a confidence interval of 95% and a significance level of $p<0.05$.

6.1.3 Empirical Result

6.1.3.1 Univariate Analysis-Participants’ Sociodemographic Characteristics

Table 6.1 shows the univariate analyses of the covariates and the health and health behaviour outcomes of 2068 in-school adolescents. Most of the participants were females (52%), with a mean age of 16yrs (SD=1.492, range = 13-18). Categorising the age into two age cohorts, most of the participants belonged to the older adolescent cohort (15-18yrs) (71%). The remaining percentage was younger adolescents in the age range of 13-14years. Additionally, most were Christians (72%), 27% were Muslims and the remaining were traditionalists. Most of the adolescents (61%) were living in households with biological parents. Almost 70% of the adolescents were in senior high school (SHS 1 and SHS 2) than junior high school (JHS1 and JHS 2). Relatively, there was a low incidence of bullying (39%) during the last two months of the study and low experiences of poor health (25.7%). Over half of the sample (53%) reported experiencing high levels of multiple psychosomatic health symptoms while about 45% reported low satisfaction with their self-confidence. A majority (68%)

reported low physical activity and low experiences of multiple health risk behaviours (73%). As shown in Table 6.1, after excluding those with missing data for the main analyses, the sample remained 1206. The descriptive analyses results are similar to when the sample was 2068. For example, the majority were also females and older adolescents as well as Christians.

Table 6.1. Baseline Characteristics of the Study Sample

	(N=2068)		**(N=1206)**	
	Valid N	(%) / Mean (SD)	Valid N	(%) / Mean (SD)
	(N=2068)		**(N=1206)**	
Age (13-18years)		16.25(±1.492)		16.38(±1.439)
Age Cohort				
Young adolescent	600	(29.01)	299	(24.8)
Older adolescent	1468	(70.99)	907	(75.2)
Gender				
Male	988	(47.8)	590	(51.1)
Female	1080	(52.2)	616	(48.9)
Religious affiliation				
Christian	1501	(72.6)	891	(73.9)
Non-Christians	567	(27.4)	315	(26.1)
Geographical location-ranked by number of poor persons (1: highest-7: lowest)				
1 Wa west	299	(14.5)	179	(14.8)
2 Wa East	273	(13.2)	140	(11.6)
3 Jirapa	298	(14.4)	177	(14.7)
4 Lawra	300	(14.5)	185	(15.3)
5 Nadowli-kaleo	300	(14.5)	199	(16.5)
6 Wa Municipal	300	(14.5)	143	(11.9)
7 Daffiama	298	(14.4)	183	(15.2)
Class level				
JHS 1	380	(18.4)	154	(12.8)
JHS 2	294	(14.2)	140	(11.6)
SHS 1	956	(46.2)	619	(51.3)
SHS 2	438	(21.2)	193	(24.3)
Family structure-live with				
Both biological parents	1262	(61.0)	730	(60.5)
Not both biological parents	806	(39)	476	(39.5)
Bullying				
Yes	797	(386)	453	(37.6)
No	1266	(61.4)	753	(62.4)
Socioeconomic status (SES)				
Low SES	853	(41.2)	500	(41.5)
Medium SES	667	(32.3)	367	(30.4)
High SES	548	(26.5)	339	(28.1)

N= Sample size, % =sample percentage, SD=Standard deviation

6.1.3.2 Spearman Correlation Matrix

The correlation analysis result as shown in Table 6.2 revealed significant associations between the participants' SDCs and their health and health behaviour outcomes. For instance, there were significant weak correlations between gender and all the outcomes except with MHRB. The findings show that compared to the females, the males reported higher SRH ($r = .177$, $p < 0.001$), lower experiences of MHPS ($r = -.203$, $p < 0.001$), higher satisfaction with self-confidence ($r = .155$, $p < 0.001$), higher physical activity ($r = .131$, $p < 0.001$). Additionally, there were significant associations between the adolescent cohort and SRH and MHPS whereby older adolescents reported higher SRH ($r = .069$, $p < 0.05$) and lower experiences of MHPS ($r = -.078$, $p < 0.05$). The findings again show that class level correlates positively with experiences of MHPS ($r = .071$, $p < 0.001$) and correlates negatively with self-confidence ($r = -.074$, $p < 0.005$). Moreover, significant correlations were found between religion and MHPS and satisfaction with self-confidence; compared to Muslims and Traditionalists, Christians reported lower experiences of MHPS ($r = -.097$, $p < 0.005$) and higher satisfaction with self-confidence ($r = .058$, $p < 0.05$). Compared to their counterparts, adolescents living with both their biological parents reported higher SRH ($r = .068$, $p < 0.05$) and higher satisfaction with self-confidence ($r = .076$, $p < 0.05$). Lastly, adolescents with experiences of bullying reported lower SRH ($r = -.103$, $p < 0.001$), higher MHPS ($r = .144$, $p < 0.001$), lower satisfaction with self-confidence ($r = -.056$, $p < 0.05$) and higher MHRB ($r = .416$, $p < 0.001$) compared to those with no bullying experiences (see Table 6.2).

Table 6.2. Spearman Correlation Matrix of Association Between Sociodemographic Factors and Adolescents' Health and Health Behaviours

N =1206	1	2	3	4	5
Outcomes					
1. Self-rated health -SRH	-				
2. MHPS	-.221***	-			
3. Self-confidence	. 148***	-.097**	-		
4. Physical activity	.187***	-.116***	.152***	-	
5. MHRB	-.084**	.188***	-.097**	-.087**	-
Sociodemographic factors					
6. Gender (D) (Male)	.117***	-.203***	.155***	.131***	.056
7. Age cohort (older adolescents)	.069*	-.078*	.023	.024	.035
8. Class level (SHS)	-.039	.071*	-.074*	-.015	-.003
9. Religion (D) (Christians)	.037	-.097**	.058*	.045	-.003
10. Family structure (D) (Biological parents)	.068*	-.045	.076*	.024	-.033
11. Geographical location	.050	-.034	.042	.006	.031
12. Bullying (D) (Bullied)	-.103***	.144***	-.056*	-.044	.416***

*** $p < 0.001$, ** $p < 0.005$, *$p < 0.05$, MHPS- Multiple health/psychosomatic symptoms, MHRB= Multiple health risk behaviours, D=Dummy variable, Reference categories in bracket

6.1.3.3 Cross-tabulation and Chi-square Analysis

- **Self-rated Health -SRH**

As shown in Table 6.3, the findings showed significant variations in SRH by some of the employed SDCs. For example, 79.7% of the male participants compared to 69.5% of females reported high SRH (χ^2 =1.424, p<0.001). Also, while about 76% of older adolescents reported high SRH, about 69% of younger adolescents reported high SRH (χ^2 =5.719, p<0.05). Significant variation in SRH by geographical locations representing the levels of the number of poor persons in the study region was detected. For example, more adolescents (29%) from the district or location with the most 'poor people' (Wa West district) reported lower SRH than their counterparts from the Lawra

district (17.8%) which has a relatively lower number of poor people (χ^2 =13.289, p<0.05). Furthermore, as Table 6.3 shows, there were significant variations in SRH by family structure (χ^2 =5.548, p<0.05) and experiences of bullying (χ^2 =12.686, p<0.001).

Table 6.3. Cross-Tabulation and Chi-Square Analysis of the Relationship Between Sociodemographic Factors and Self-Rated Health

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Gender						
Female	188	(30.5)	428	(69.5)	16.424	0.000***
Male	120	(20.3)	470	(79.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Cohort of adolescents						
Young adolescent	92	(30.8)	207	(69.2)	5.719	0.017*
Older adolescent	216	(23.8)	691	(76.2)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Educational level						
Senior high school	224	(24.6)	688	(75.4)	.004	0.948
Junior high school	84	(28.6)	210	(71.4)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Religious affiliation						
Christian	219	(24.6)	672	(75.4)	5.796	0.055
Muslim	83	(27.3)	221	(72.7)		
Traditionalist	6	(54.5)	5	(45.5)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Geographical location-ranked by number of poor persons (1: highest-7: lowest)						
1 Wa west	51	(28.5)	128	(71.5)	13.282	0.039*
2 Wa East	43	(30.7)	97	(69.3)		
3 Jirapa	49	(27.7)	128	(72.3)		
4 Lawra	33	(17.8)	152	(83.2)		
5 Nadowli-kaleo	60	(30.2)	139	(69.8)		
6 Wa Municipal	31	(21.7)	112	(78.3)		
7 Daffiama	41	(22.4)	142	(77.6)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family structure						
Not biological parents (Single/stepparent/relative/others)	139	(29.2)	337	(70.8)	5.548	0.019*
Both Biological parents	169	(23.2)	561	(76.8)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Bullied						
No	166	(22.0)	587	(78.0)	12.868	0.000***
Yes	141	(31.3)	311	(68.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		

****p* < 0.001; ***p* < 0.005; **p* < 0.05. *N= sample size*

- **Multiple Health Complaints/Psychosomatic Symptoms (MHPS)**

From Table 6.4, it can be observed that the variations in the adolescents' experiences of MHPS were influenced by their diverse SDCs. Like the correlation findings, more of the females (83%) reported high experiences of MHPS compared to the male cohort (65%) (χ^2 =49.609, p<0.001). Also, about 80% of young adolescents reported experiencing high MHPS compared to reports by about 72% of older adolescents (χ^2 =7.049, p<0.05). Nearly 79% of junior high school students compared to 72% of senior high school students reported experiencing high MHPS. Additionally, district (χ^2 =20.596, p<0.005), religion (χ^2 =11.857, p<0.005), and experiences of bullying (χ^2 =25.030, p<0.001) were all responsible for significant variations in the adolescents' experiences of MHPS.

Table 6.4. Cross-Tabulation and Chi-Square Analysis of the Relationship Between Sociodemographic Factors and Multiple Health Complaints/Psychosomatic Symptoms

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Gender						
Female	104	(16.9)	512	(83.1)	49.609	0.000***
Male	204	(34.6)	386	(65.4)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Cohort of adolescents						
Young adolescent	59	(19.7)	240	(80.3)	7.049	0.008*
Older adolescent	249	(27.5)	658	(72.5)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Educational level						
Senior high school	249	(27.3)	663	(72.7)	6.119	0.013*
Junior high school	59	(20.1)	235	(79.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Religious affiliation						
Christian	250	(28.1)	641	(71.9)	11.857	.003**
Muslim	55	(18.1)	249	(81.9)		
Traditionalist	3	(27.3)	8	(72.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Geographical location-ranked by number of poor persons (1: highest-7: lowest)						
1 Wa west	50	(27.9)	129	(72.1)	20.596	0.002**
2 Wa East	24	(17.1)	116	(82.9)		
3 Jirapa	50	(28.2)	127	(71.8)		
4 Lawra	49	(26.5)	136	(73.5)		
5 Nadowli-kaleo	33	(16.6)	166	(83.4)		
6 Wa Municipal	44	(30.8)	99	(69.2)		
7 Daffiama	58	(31.7)	125	(68.3)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family structure						
Single/stepparent/relative/others	110	(23.1)	366	(76.9)	2.441	0.118
Biological parents	198	(27.1)	532	(72.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Bullied						
No	229	(30.4)	524	(69.6)	25.030	0.000***
Yes	79	(17.4)	374	(82.6)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		

****p* < 0.001; ***p* < 0.005; **p* < 0.05. *N= sample size*

- **Satisfaction with Self-confidence (SSC)**

As shown in Table 6.5, significant variations in SSC by gender, class level, and family structure were found. For example, 71% of the male participants compared to 56% of females reported high SSC (χ^2 =28.811, p<0.001). Also, while about 65% of SHS students reported high SRH, about 57% of JHS students reported high SSC (χ^2 =6.639,

p<0.05). Lastly, significant variation in SSC by family structure was detected with more of those living with both biological parents reported higher SSC (66%) than those not living with both biological parents (59%) (χ^2 =6.956, p<0.05).

Table 6.5. Cross-Tabulation and Chi-Square Analysis of the Relationship Between Sociodemographic Factors and Satisfaction With Self-confidence

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Gender						
Female	268	(43.5)	348	(56.5)	28.811	0.000***
Male	169	(28.6)	421	(71.4)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Cohort of adolescents						
Young adolescent	114	(38.1)	185	(61.9)	0.616	0.433
Older adolescent	323	(35.6)	584	(64.4)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Educational level						
Senior high school	312	(34.2)	600	(65.8)	6.639	0.010*
Junior high school	125	(42.5)	169	(57.5)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Religious affiliation						
Christian	308	(34.6)	583	(65.4)	5.017	0.081
Muslim	123	(40.5)	181	(45.5)		
Traditionalist	6	(54.5)	5	(59.5)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Geographical location-ranked by number of poor persons (1: highest-7: lowest)						
1 Wa west	77	(43.0)	102	(57.0)	11.944	0.063
2 Wa East	46	(32.9)	94	(67.1)		
3 Jirapa	71	(40.1)	106	(59.9)		
4 Lawra	63	(34.1)	122	(65.9)		
5 Nadowli-kaleo	60	(30.2)	139	(69.8)		
6 Wa Municipal	60	(42.0)	83	(58.0)		
7 Daffiama	60	(32.8)	123	(67.2)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Family structure						
Single/stepparent/relative/others	194	(40.8)	282	(59.2)	6.956	0.008*
Biological parents	243	(33.3	487	(66.7)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Bullied						
No	257	(34.1)	496	(65.9)	3.846	0.050
Yes	180	(39.7)	273	(60.3)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		

****p* < 0.001; ***p* < 0.005; **p* < 0.05. *N= sample size*

- **Physical Activity (PA)**

Table 6.6 illustrates that only gender influenced the school-aged adolescents' level of physical activity. While 84% of males reported high physical activity, 73% of females reported high physical activity (χ^2 =20.774, p<0.001).

Table 6.6. Cross-Tabulation and Chi-Square Analysis of the Relationship Between Sociodemographic Factors and Physical Activity

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Gender						
Female	162	(26.3)	454	(73.7)	20.774	0.000***
Male	92	(15.6)	498	(84.4)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Cohort of adolescents						
Young adolescent	68	(22.7)	231	(77.3)	0.676	0.411
Older adolescent	186	(20.5)	721	(79.5)		
Total	**254**	**(21.1)**	**952**	**(78.5)**		
Educational level						
Senior high school	189	(20.7)	723	(79.3)	0.257	0.612
Junior high school	17265	(22.1)	229	(77.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Religious affiliation						
Christian	178	(20.0)	713	(80.0)	1.067	0.587
Muslim	75	(24.7)	229	(75.3)		
Traditionalist	1	(9.1)	10	(90.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Geographical location-ranked by number of poor persons (1: highest-7: lowest)						
1 Wa west	38	(21.2)	141	(78.8)	3.698	0.717
2 Wa East	25	(17.9)	115	(82.1)		
3 Jirapa	40	(22.6)	137	(77.4)		
4 Lawra	44	(23.8)	141	(76.2)		
5 Nadowli-kaleo	40	(20.1)	159	(79.9)		
6 Wa Municipal	34	(23.8)	109	(76.2)		
7 Daffiama	33	(18.0)	150	(82.0)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Family structure						
Single/stepparent/relative/others	106	(22.3)	370	(77.7)	0.690	0.406
Biological parents	148	(20.3	582	(79.7)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Bullied						
No	148	(19.7)	605	(80.3)	2.386	0.122
Yes	106	(23.4)	347	(76.6)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		

****p* < 0.001; **p* < 0.05; *N= sample size*

- **Multiple Health Risks Behaviours (MHRB)**

Table 6.7 shows that there were significant variations in adolescents' experiences of MHRB by their religious affiliation, geographical location, and experiences of bullying. For example, about 36%, 74%, and 73% of Traditionalists, Christians, and Muslims respectively reported low experiences of MHRB (χ^2 =7.817, p<0.05). More of those who have not experienced any bullying (87%) reported low experiences of MHRB than those who had experienced bullying (49%) (χ^2 =209.030, p<0.001).

Table 6.7. Cross-Tabulation and Chi-Square Analysis of the Relationship Between Sociodemographic Factors and Multiple Health Risks Behaviours

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Gender						
Female	466	(75.6)	150	(24.4)	3.798	0.051
Male	417	(70.7)	173	(29.3)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Cohort of adolescents						
Young adolescent	227	(75.9)	72	(24.1)	1.481	0.224
Older adolescent	656	(72.3)	251	(27.7)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Educational level						
Senior high school	667	(73.1)	245	(26.9)	0.013	0.911
Junior high school	216	(73.5)	78	(26.5)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Religious affiliation						
Christian	653	(73.3)	238	(26.7)	7.817	0.020*
Muslim	226	(74.3)	78	(25.7)		
Traditionalist	4	(36.4)	7	(63.6)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Geographical location-ranked by number of poor persons (1: highest-7: lowest)						
1 Wa west	130	(72.6)	49	(27.4)	21.856	0.001**
2 Wa East	110	(78.6)	30	(21.4)		
3 Jirapa	118	(66.7)	59	(33.3)		
4 Lawra	153	(82.7)	32	(17.3)		
5 Nadowli-kaleo	150	(75.4)	49	(24.6)		
6 Wa Municipal	91	(63.6)	52	(36.4)		
7 Daffiama	131	(71.6)	52	(28.4)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Family structure						
Single/stepparent/relative/others	340	(71.4)	136	(28.6)	1.283	0.257
Biological parents	543	(74.4)	187	(25.6		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Bullied						
No	**659**	**(87.5)**	94	**(12.5)**	209.030	0.000***
Yes	**224**	**(49.4)**	229	**(50.6)**		
Total	**883**	**(73.2)**	**323**	**(26.8)**		

****p* < 0.001; ***p* < 0.005; **p* < 0.05*N= sample size*

6.2 Socioeconomic Status, Social Capital, Health, and Health Behaviours

6.2.1 Introduction

Various studies have independently shown that there exist indeed significant relationships among SES, social capital, health, and health behaviours (Morgan &

Haglund, 2009; Samdal et al., 2000; Morgan, 2010; De Clercq et al., 2011; Currie et al., 2012. Inchley et al., 2016). These studies, have, however, not examined these associations among all these variables simultaneously in the same study. Also, many of such studies have not especially reported the correlations and variations in the specific health and health behaviour outcomes employed in this study by SES and the employed specific constructs of social capital. While studies on variations in adolescents' SRH by SES can be found in the literature (e.g., Currie et al., 2012. Inchley et al., 2016), little can be said for studies relating to variations in SRH by social capital. It is again rare to find literature on how school-aged adolescents' satisfaction with self-confidence, experiences of multiple health/psychosomatic symptoms, physical activity, and experiences of multiple health risk behaviours correlate and vary by their SES and social capital.

It is very important that information on how these outcomes vary by SES and diverse constructs of social capital be provided to enable other researchers to identify potential determinants of various health and health behaviour measures when designing their studies. It is also important in offering an overview of particular segments of the population that are likely to face social and health injustice if appropriate policy and interventions are not implemented. This section, therefore, provides an overview of the associations existing among all the employed key variables relating to SES, social capital, health, and health behaviours as well as the variations in the health and health behaviour outcomes by SES and social capital. Offering an overview of the associations by correlations among the various variables employed in the study as well as the variations in the outcomes by the independent variables is also fulfilling a basic condition to confirm the initial assumptions required for mediation and moderation analysis to be carried out, which is to affirm that there

exist potential associations among the predictor, mediators, moderators, and the outcome variables.

6.2.2 Statistical Methods

6.2.2.1 Measures

The outcome or dependent variables in this study are health and health behaviours. Health outcomes employed are self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS) (comprising a composite score from headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours are physical activity (PA) and multiple health risk behaviours (MHRB) (comprising a composite score from sexual health, bullying, alcohol use, substance use, and smoking). The independent variables are SES, social capital constructs including family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), school sense of belonging (SSB), school autonomy and support (SAS), community sense of belonging (CSB) and peer-based social network (PSN). The continuous measures of the variables involving the 1206 adolescents were used for the correlation analysis. After confirming some associations exists among the variables, for cross-tabulation Chi-square analysis, the variables involving 1206 adolescents were categorised appropriately for analysis as shown in Table 6.9- Table 6.13 (see methodology section for measuring and coding of variables for analysis).

6.2.2.2 Analytical Methods

Firstly, an overview of the participants' health and health behaviour outcomes were examined using descriptive statistics in SPPS univariate analysis involving a sample

of 1206 adolescents after excluding all missing values and those with don't know responses. The participants' health and health behaviour characteristics in composite scores were presented by their percentages, mean and standard deviations as shown in the graphs-Figure 6.1-Figure 6.5. To examine associations among the variables, Spearman correlation matrix and cross tabulation-Chi Square analysis were carried out using SPSS involving 1206 participants. The correlation analysis was to show the association between the independent variables and the participants' outcomes as well as between the predictor (SES) and proposed mediators/moderators (social capital). Cross tabulation-Chi Square analysis was done to reveal the variations existing between the participants' SES, social capital, and their health and health behaviours. While the correlation analysis employed the continuous variables (composite scores) of the outcomes, the Cross-tabulation and Chi-square analysis employed the categorised variables derived from the outcome variables (the outcomes were dichotomised) as explained in the methodology section. The statistical significance of the correlation and Chi-square test were determined at a confidence interval of 95% and a significance level of $p<0.05$.

6.2.3 Empirical Results

6.2.3.1 Univariate Analysis of Health and Health Behaviours

Regarding the participants' health outcomes, Figure 6.1- Figure 6.3 indicate that generally, the respondents reported high self-rated health (about 74%) with a mean score of 3.433 (SD= 1.257). The participants also reported multiple experiences of health/psychosomatic symptoms implying that about 74% reported experiencing more than 1 health/ psychosomatic symptom (M = 3.606, SD = 2.374) (score range = 0-7). Again, over 50% of them reported high satisfaction with their self-confidence with a mean of 6.720 (SD = 2.998) (score range = 0-10).

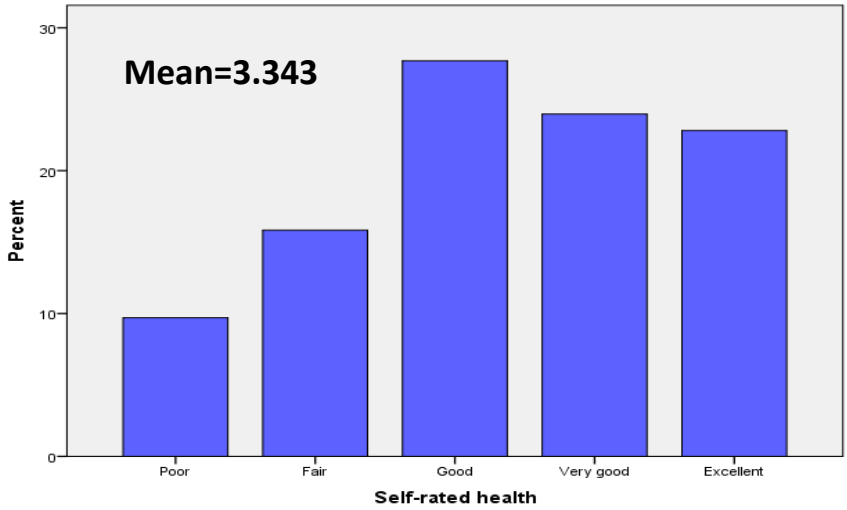

Figure 6.1. Self-rated health of Ghanaian in-school adolescents.

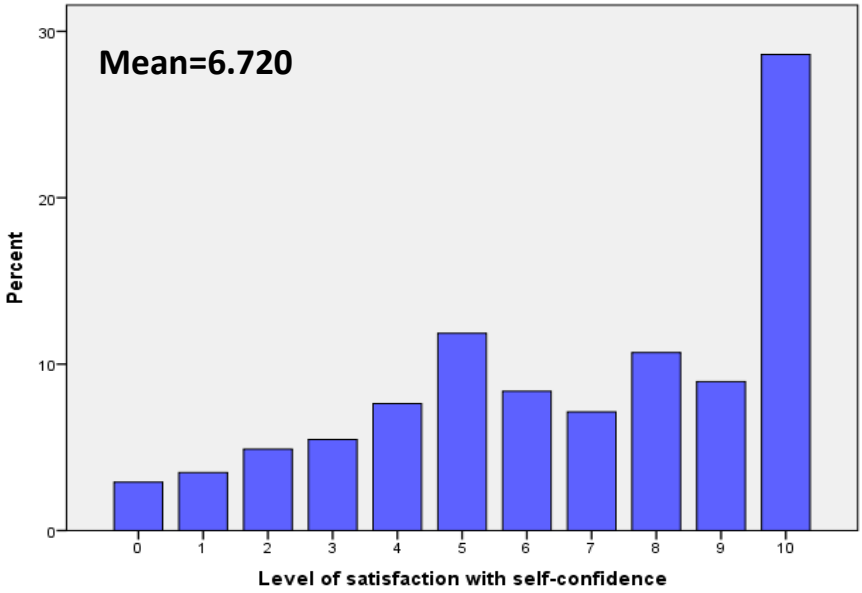

Figure 6.2. Ghanaian in-school adolescents' satisfaction with their self-confidence. Author's construct.

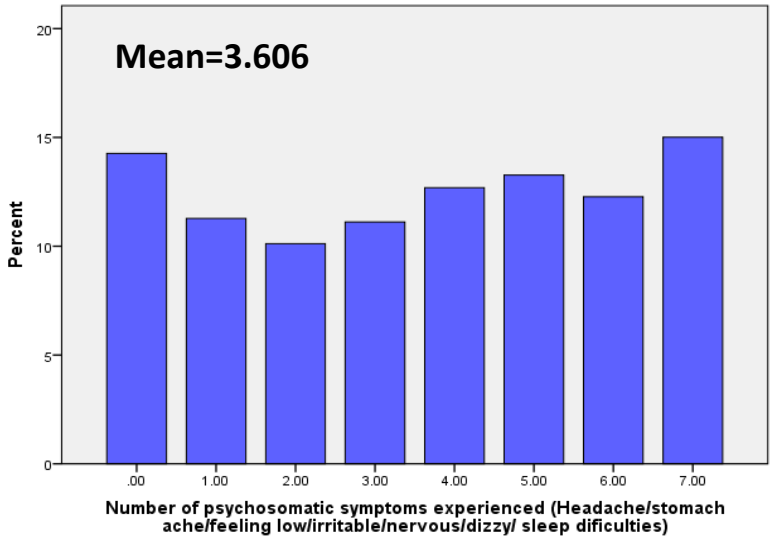

Figure 6.3. Multiple health/psychosomatic symptom experiences of Ghanaian in-school adolescents.

Concerning the participants' health behaviours, Figure 6.4 to Figure 6.5 show that the majority (68%) reported that they are less physically active (M = 3.076, SD = 0.788) (score range= 1-4). Also, most of them (73%) reported low experiences of multiple health risk behaviours with many reporting less than two health risk behaviours (M = 1.038, SD = 1.016) (scores range = 0-7).

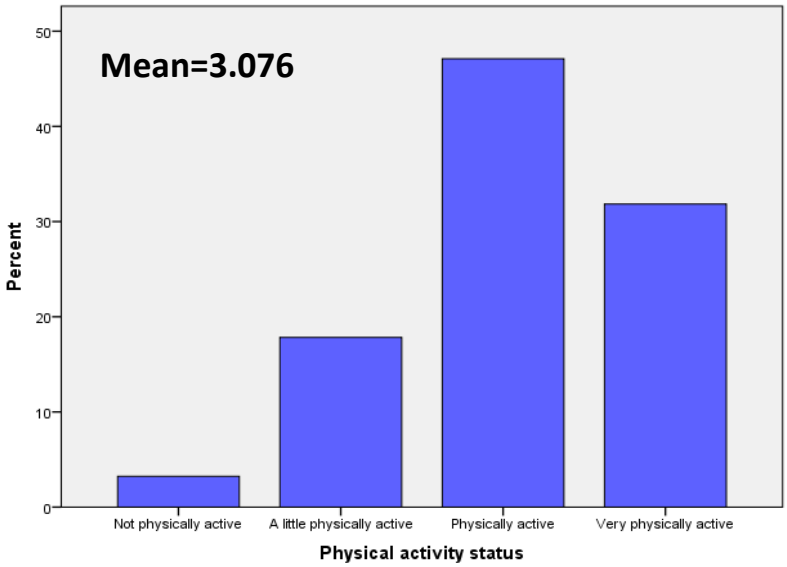

Figure 6.4. Level of physical activity of Ghanaian in-school adolescents.

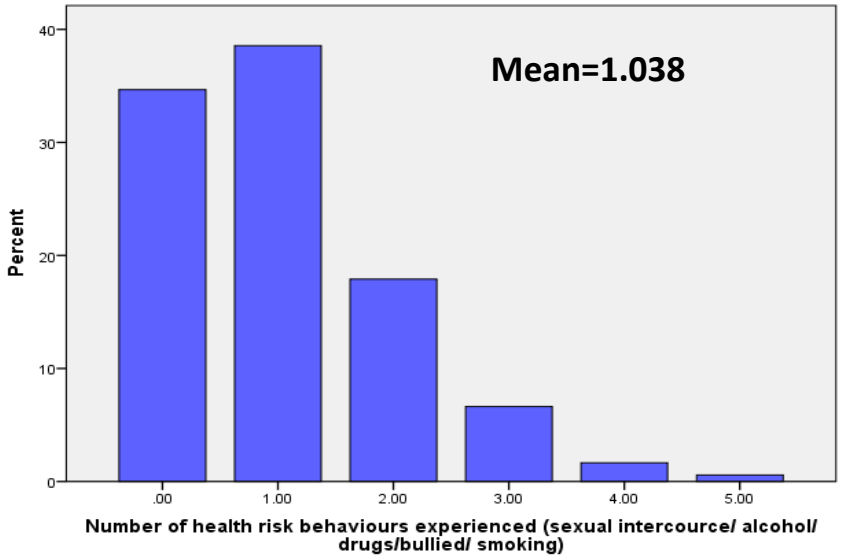

Figure 6.5. Multiple health risk behaviour experiences by Ghanaian in-school adolescents.

6.2.3.2 Bivariate Analysis- Spearman Correlation Findings

Table 6.8 reports weak significant associations among the key independent and dependent variables in this study which support the initial assumption that social

capital, SES and health and health behaviours are related. Thus, a basic assumption for mediation analysis to be done has been met. First, there were significant associations among all the health and health behaviour variables as shown in Table 6.8. Table 6.8 shows a positive correlation between the participants' SES and SRH ($r = .111$, $p < 0.001$), SSC ($r = .153$, $p < 0.001$) and physical activity ($r = .123$, $p < 0.001$). There were also significant associations between SES and the various measures of social capital. For example, SES positively correlated with FSB ($r = .177$, $p < 0.001$), CSB ($r = .145$, $p < 0.001$), FAS ($r = .160$, $p < 0.001$), PSS-Fa ($r = .181$, $p < 0.001$), PSN ($r = .156$, $p < 0.001$) and negatively correlated with family control ($r = -.091$, $p < 0.005$). There were also positive associations between FSB and SRH, ($r = .272$, $p < 0.001$), SSC ($r = .227$, $p < 0.001$), and physical activity ($r = .228$, $p < 0.001$), but negative associations with MHPS ($r = -.185$, $p < 0.001$) and MHRB ($r = -.100$, $p < 0.001$). FAS also positively correlated with SRH ($r = .204$, $p < 0.001$), SSC ($r = .212$, $p < 0.001$) and physical activity ($r = .161$, $p < 0.001$) but negatively correlated with MHPS ($r = -.107$, $p < 0.001$) and MHRB ($r = -.110$, $p < 0.005$). FC on the other hand, showed negative association with SRH, and SSC but positively associated with MHPS. PSS-Fa and SSB also positively correlated with SRH, SSC, and physical activity but showed negative associations with MHPS and MHRB. Moreover, CSB was revealed to have a positive association with SRH, SSC, and physical activity but negative associations with MHPS. SAS was revealed to associate positively with SRH and SSC but negatively associate with MHRB. Lastly, PSN correlated positively with SSC and PA (see Table 6.8).

Table 6.8. Spearman Correlation Matrix of Association Between SES, Social Capital and In-school Adolescents' Health and Health Behaviours

N =1206	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SRH	-												
2. MHPS	-.221***	-											
3. SSC	. 148***	-.097**	-										
4. PA	.187***	-.116***	.152***	-									
5. MHRB	-.084**	.118***	-.097**	-.087**	-								
6. FSB	.272***	-.185***	.227***	.228***	-.100**	-							
7. FAS	.204***	-.107***	.212***	.161***	-.110***	.360***	-						
8. FC	-.155***	.097**	-.077*	-.033	.054	-.172***	-.059*	-					
9. PSS-Fa	.234***	-.162***	.251***	.210***	-.127***	.448***	.372***	-.171***	-				
10. SSB	.111***	-.147***	.145***	.119***	-.060*	.174***	.196***	-.049	.256***	-			
11. SAS	.085**	-.089**	.122***	.041	-.018	.097**	.154***	.010	.156***	.447***	-		
12. CSB	.134***	-.113***	.112***	.212***	-.012	.206***	.155***	.089**	.187***	.126***	.099**	-	
13. PSN	.054	.024	.064*	.057*	-.004	.108***	.036	-088**	.126***	.038	-.006	.008	-
14. SES	.111***	.011	.153***	.123***	-.049	.177***	.160***	-.091**	.181***	.047	.028	.145***	.156***

*** $p < 0.001$, ** $p < 0.005$, *$p < 0.05$, MHPS- Multiple health/psychosomatic symptoms, MHRB= Multiple health risk behaviours

6.2.3.3 Bivariate Analysis- Cross Tabulation and Chi-Square Analysis Findings

- **Socioeconomic Status, Social Capital and Self-Rated Health**

As shown in Table 6.9, all the measures of psychosocial social capital and SES significantly caused variations in the participants' SRH. About 82%, 73%, and 69% of adolescents with high, medium, and low SES respectively reported high SRH. While around 87% and 75% of adolescents with high and medium FSB respectively reported high SRH, a proportion of 57% of adolescents with low FSB reported high SRH (χ^2 =91.074, p<0.001). Around 84%, 77%, and 60% of adolescents with high, medium, and low FAS respectively reported high SRH (χ^2 =55.283, p<0.001). Furthermore, there were significant variations in SRH by FC (χ^2 =28.970, p<0.001), PSS-Fa (χ^2 =83.826, p<0.001), SSB (χ^2 =19.203 p<0.001), SAS (χ^2 =10.373, p<0.05), CSB (χ^2 =21.747, p<0.001), and PSN (χ^2 =7.043, p<0.05).

Table 6.9. Cross-tabulation and Chi-Square Analysis of the Relationship Between SES, Social Capital and Self-Rated Health

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Family S. belonging						
Low	140	(43.2)	184	(56.8)	91.074	0.000***
Medium	117	(24.9)	352	(75.1)		
High	51	(12.3)	362	(87.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family autonomy support						
Low	129	(40.4)	190	(59.6)	55.283	0.000***
Medium	124	(22.7)	423	(77.3)		
High	55	(16.2)	285	(83.8)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family control						
Low	43	(15.4)	236	(84.6)	28.970	0.000***
Medium	147	(25.2)	436	(74.8)		
High	118	(34.3)	226	(65.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family social support						
Low	146	(44.1)	185	(55.9)	83.826	0.000***
Medium	108	(19.7)	440	(80.3)		
High	54	(16.5)	273	(83.5)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
School sense of belonging						
Low	110	(34.7)	207	(65.3)	19.203	0.000***
Medium	131	(22.8)	444	(77.2)		
High	67	(21.3)	247	(78.7)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
School autonomy support						
Low	139	(30.8)	313	(69.2)	10.373	0.006*
Medium	81	(22.8)	275	(77.2)		
High	88	(22.1)	310	(77.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Community S. belonging						
Low	132	(32.4)	275	(67.6)	21.747	0.000***
Medium	121	(25.2)	359	(74.8)		
High	55	(17.2)	264	(82.8)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Peer-based social network						
Low	148	(27.0)	401	(73.0)	7.043	0.030*
Medium	95	(28.4)	239	(71.6)		
High	65	(20.1)	258	(79.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Socioeconomic status						
Low	151	(30.2)	349	(69.8)	15.934	0.000***
Medium	96	(26.2)	271	(73.8)		
High	61	(18.0)	278	(82.0)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		

***$p < 0.001$; **$p < 0.005$; *$p < 0.05$. *N= sample size*

- **Socioeconomic Status, Social Capital and Multiple Health Complaints/Psychosomatic Symptoms**

Referring to Table 6.10, there were no significant variations in MHPS by SES. Excluding peer-based social network-PSN, all the measures of social capital significantly triggered variations in the participants' experiences of MHPS. For example, while a proportion of over 83% and 77% of adolescents with low and medium FSB respectively reported high MHPS, a proportion of about 63% of adolescents with high FSB reported experiencing high MHPS (χ^2 =43.540, p<0.001). About 80%, 75%, and 69% of adolescents with low, medium, and high FAS respectively reported high MHPS while about 19.4%, 25%, and 32% of adolescents with low, medium, and high FAS respectively reported low MHPS (χ^2 =13.919, p<0.001). Moreover, there were significant variations in MHPS by FC (χ^2 =11.557, p<0.005), PSS-Fa (χ^2 =36.173, p<0.001), CSB (χ^2 =16.643, p<0.001), SAS (χ^2 =11.171, p<0.005) and SSB (χ^2 =29.331, p<0.001).

Table 6.10. Cross-Tabulation and Chi-Square Analysis of The Relationship Between SES, Social Capital and Multiple Health Complaints/Psychosomatic Symptoms

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Family S. belonging						
Low	53	(16.4)	271	(83.6)	43.540	0.000***
Medium	104	(22.2)	365	(77.8)		
High	151	(36.6)	262	(63.4)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family autonomy support						
Low	62	(19.4)	257	(80.6)	13.919	0.001**
Medium	137	(25.0)	410	(75.0)		
High	109	(32.1)	231	(67.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family control						
Low	87	(31.2)	192	(68.8)	11.557	0.003**
Medium	154	(26.4)	429	(73.6)		
High	67	(19.5)	277	(80.5)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Family social support						
Low	45	(13.6)	286	(86.4)	36.173	0.000***
Medium	156	(28.5)	392	(71.5)		
High	107	(32.7)	220	(67.3)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
School sense of belonging						
Low	60	(18.9)	257	(81.1)	29.331	0.000***
Medium	133	(23.1)	442	(76.9)		
High	115	(36.6)	199	(63.4)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
School autonomy support						
Low	91	(20.1)	361	(79.9)	11.171	0.004**
Medium	101	(28.4)	255	(71.6)		
High	116	(29.1)	282	(70.9)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Community S. belonging						
Low	83	(20.4)	324	(79.6)	16.643	0.000***
Medium	118	(24.6)	362	(75.4)		
High	107	(33.5)	212	(66.5)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Peer-based social network						
Low	152	(27.7)	397	(72.3)	5.218	0.074
Medium	70	(21.0)	264	(79.0)		
High	86	(26.6)	237	(73.4)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		
Socioeconomic status						
Low	130	(26.0)	370	(74.0)	0.160	0.923
Medium	94	(25.6)	273	(74.4)		
High	84	(24.8)	255	(75.2)		
Total	**308**	**(25.5)**	**898**	**(74.5)**		

****p* < 0.001; ***p* < 0.005; *N= sample size*

- **Socioeconomic Status, Social Capital and Self-confidence**

As shown in Table 6.11, aside from peer-based social network, the participants' SSC varied by all the measures of social capital and SES significantly. Over 56% and 63% of adolescents with low and medium SES respectively reported high SSC, while a proportion of 75% of adolescents with high SES reported high SSC (χ^2 =29.435, p<0.001). About 47%, 65%, and 75% of adolescents with low, medium, and high FSB respectively reported high SSC while about 53%, 35%, and 24% of adolescents with low, medium, and high FSB respectively reported low SSC (χ^2 =64.950, p<0.001). Around 50%, 63%, and 77% of adolescents with low, medium, and high FAS respectively reported high SSC (χ^2 =54.039, p<0.001). Furthermore, there were significant variations in SSC by FC (χ^2 =8.145, p<0.05), PSS-Fa (χ^2 =76.085, p<0.001), CSB (χ^2 =15.139, p<0.005), SAS (χ^2 =18.330, p<0.001) and SSB (χ^2 =25.779 p<0.001).

Table 6.11. Cross-Tabulation and Chi-Square Analysis of the Relationship Between SES, Social Capital and Self-Confidence

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Family S. belonging						
Low	172	(53.1)	152	(46.9)	64.950	0.001***
Medium	164	(35.0)	305	(65.0)		
High	101	(24.5)	312	(75.5)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Family autonomy support						
Low	159	(49.8)	160	(50.2)	54.039	0.000***
Medium	202	(36.9)	345	(63.1)		
High	76	(22.4)	264	(77.6)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Family control						
Low	82	(29.4)	197	(70.6)	8.145	0.017*
Medium	217	(37.2)	366	(62.8)		
High	138	(40.1)	206	(59.9)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Family social support						
Low	174	(52.6)	157	(47.4)	76.085	0.000***
Medium	198	(36.1)	350	(63.9)		
High	65	(19.9)	262	(80.1)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
School sense of belonging						
Low	143	(45.1)	174	(54.9)	25.779	0.000***
Medium	213	(37.0)	362	(63.0)		
High	81	(25.8)	233	(74.2)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
School autonomy support						
Low	192	(42.5)	260	(57.5)	18.330	0.000**
Medium	132	(37.1)	224	(62.9		
High	113	(28.4)	285	(71.6)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Community S. belonging						
Low	173	(42.5)	234	(57.5)	15.139	0.001**
Medium	173	(36.0)	307	(64.0)		
High	91	(28.5)	228	(71.5)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Peer-based social network						
Low	217	(39.5)	332	(60.5)	4.987	0.083
Medium	115	(34.4)	219	(65.6)		
High	105	(32.5)	218	(67.5)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		
Socioeconomic status						
Low	217	(43.4)	283	(56.6)	29.435	0.000***
Medium	135	(36.8)	232	(63.2)		
High	85	(25.1)	254	(74.9)		
Total	**437**	**(36.2)**	**769**	**(63.8)**		

***$p < 0.001$; **$p < 0.005$; *$p < 0.05$. *N= sample size*

- **Socioeconomic Status, Social Capital, and Physical Activity**

Table 6.12 implies that the participants' physical activity status significantly varied by SES and some of the measures of social capital. About 75% and 76% proportion of adolescents with low and medium SES respectively reported high PA, while a proportion of about 88% of adolescents with high SES reported high PA (χ^2 =23.090, p<0.001). Over 64%, 80%, and 88% of adolescents with low, medium, and high FSB respectively reported high PA, and over 35%, 19%, and 11% of adolescents with low, medium, and high FSB respectively reported low PA (χ^2 =65.483, p<0.001). More than 70%, 78%, and 87% of adolescents with low, medium, and high FAS respectively reported high PA (χ^2 =31.247, p<0.001). Moreover, there were significant variations in PA by CSB (χ^2 =54.221, p<0.001), PSS-Fa (χ^2 =58.303, p<0.001), and SSB (χ^2 =17.191, p<0.001).

Table 6.12. Cross-Tabulation and Chi-Square Analysis of the Relationship Between SES, Social Capital and Physical Activity

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Family S. belonging						
Low	115	(35.5)	209	(64.5)	65.483	0.000***
Medium	93	(19.8)	376	(80.2)		
High	46	(11.1)	367	(88.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Family autonomy support						
Low	95	(29.8)	224	(70.2)	31.247	0.000***
Medium	118	(21.6)	429	(78.4)		
High	41	(12.1)	299	(87.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Family control						
Low	58	(20.8)	221	(79.2)	2.947	0.229
Medium	113	(19.4)	470	(80.6)		
High	83	(24.1)	261	(75.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Family social support						
Low	116	(35.0)	215	(65.0)	58.303	0.000***
Medium	99	(18.1)	449	(81.9)		
High	39	(11.9)	288	(88.1)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
School sense of belonging						
Low	87	(27.4)	230	(72.6)	17.191	0.000***
Medium	123	(21.4)	452	(78.6)		
High	44	(14.0)	270	(86.0)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
School autonomy support						
Low	107	(23.7)	345	(76.3)	3.028	0.220
Medium	68	(19.1)	288	(80.9)		
High	79	(19.8)	319	(80.2)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Community S. belonging						
Low	129	(31.7)	278	(68.3)	54.221	0.000***
Medium	95	(19.8)	385	(80.2)		
High	30	(9.4)	289	(90.6)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Peer-based social network						
Low	125	(22.8)	424	(77.2)	5.744	0.057
Medium	76	(22.8)	258	(77.2)		
High	53	(16.4)	270	(83.6)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		
Socioeconomic status						
Low	126	(25.2)	374	(74.8)	23.090	0.000***
Medium	87	(23.7)	280	(76.3)		
High	41	(12.1)	298	(87.9)		
Total	**254**	**(21.1)**	**952**	**(78.9)**		

***$p < 0.001$; *$p < 0.05$; *N= sample size*

- **Socioeconomic Status, Social Capital, and Multiple Health Risk Behaviours**

Table 6.13 infers that there were no significant variations in the participants' experiences of MHRB by their SES, FC, PSN, SAS, and CSB. About 34%, 26%, and 22% of adolescents with low, medium, and high FSB respectively reported high MHRB, and around 66%, 74%, and 78% of adolescents with low, medium, and high FSB respectively reported low MHRB (χ^2 =12.597, p<0.005). More than 38%, 21%, and 25% proportion of adolescents with low, medium, and high FAS respectively reported high MHRB (χ^2 =30.233, p<0.001). Likewise, MHRB significantly varied by PSS-Fa (χ^2 =25.241, p<0.001) and SSB (χ^2 =7.191, p<0.05).

Table 6.13. Cross-Tabulation and Chi-Square Analysis of the Relationship Between SES, Social Capital and Multiple Health Risk Behaviours

Variable	Low		High		χ^2	*p*-value
	N	(%)	N	(%)		
Family S. belonging-FSB						
Low	215	(66.4)	109	(33.6)	12.597	0.002**
Medium	346	(73.8)	123	(26.2)		
High	322	(78.0)	91	(22.0)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Family autonomy support-FAS						
Low	197	(61.8)	122	(38.2)	30.233	0.001***
Medium	430	(78.6)	117	(21.4)		
High	256	(75.3)	84	(24.7)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Family control -FC						
Low	214	(76.7)	65	(23.3)	3.490	0.175
Medium	428	(73.4)	155	(26.6)		
High	241	(70.1)	103	(29.9)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Family social support-PSS-Fa						
Low	208	(62.8)	123	(60.4)	25.241	0.001***
Medium	420	(76.6)	128	(23.4)		
High	255	(78.0)	72	(22.0)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
School sense of belonging-SSB						
Low	214	(67.5)	103	(32.5)	7.191	0.027*
Medium	434	(75.5)	141	(24.5)		
High	235	(74.8)	79	(25.2)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
School autonomy support-SAS						
Low	322	(71.2)	130	(28.8)	2.461	0.292
Medium	271	(76.1)	85	(23.9)		
High	290	(72.9)	108	(27.1)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Community S. belonging-CSB						
Low	298	(73.2)	109	(26.8)	0.787	0.675
Medium	346	(72.1)	134	(27.9)		
High	239	(74.9)	80	(25.1)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Peer-based social network-PSN						
Low	406	(74.0)	143	(26.0)	3.077	0.215
Medium	233	(69.8)	101	(30.2)		
High	244	(75.5)	79	(24.5)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		
Socioeconomic status-SES						
Low	355	(71.0)	145	(29.0)	3.007	0.222
Medium	269	(73.3)	98	(26.7)		
High	259	(76.4)	80	(23.6)		
Total	**883**	**(73.2)**	**323**	**(26.8)**		

***$p < 0.001$; **$p < 0.005$; *$p < 0.05$. *N= sample size*

CHAPTER SEVEN

THE RELATIONSHIPS BETWEEN SOCIOECONOMIC STATUS AND SCHOOL-AGED ADOLESCENTS' HEALTH AND HEALTH BEHAVIOURS

7.1 Introduction

The impact that socioeconomic inequalities pose on populations' health is globally asserted to be enormous, exposing especially young people to both short- and long-term detrimental consequences including multidimensional generational poverty (WHO, 2008; NDCP, GSS, NDCP, GSS, UNICEF, 2020). Socioeconomic inequalities again have compelled many young people in societies to adopt certain health behaviours that have been associated with health inequalities and even mortalities as coping strategies (WHO, 2008; Currie et al., 2012; Inchley et al., 2016). Socioeconomic status (SES), consequently, plays a crucial role in establishing social gradients in young people's health and as such is a vital social determinant of health and health behaviours (WHO, 2008).

While adequate evidence on the direct effects of SES on health and health behaviours exist in the literature, especially from high-income countries, scarce literature has provided evidence on the direct relationship that exists between SES and school-aged adolescents' self-rated health, satisfaction with self-confidence, physical activity and experiences of multiple health complaints/psychosomatic symptoms and multiple health risk behaviours in especially the LMIC context. From this thesis, the correlation and bivariate analysis revealed that indeed there exists a potential direct relationship between SES and the stated dimensions of health and health behaviours of school-aged adolescents in Ghana. These findings, hence, support the need for this

specific research to contribute to the academic discourse on the direct effects of SES on school-aged adolescents' health and health behaviours.

Examining the direct relationship between SES and diverse dimensions of health and health behaviours of adolescents simultaneously in the LMIC context is very crucial to offer insight into the potential social, health, and developmental injustices that especially poor adolescents in LMICs are subjected to. A simultaneous analysis would allow for holistic policy recommendations to tackle the socioeconomic determinants of both health and health behaviours of school-aged adolescents. Thus, addressing the determinants of health without addressing the determinants of health behaviours may not prove effective as health behaviours have been revealed in this study to be significantly associated with for example self-rated health, self-confidence, and multiple health/psychosomatic symptoms.

In this chapter, therefore, the relationships between SES and health and health behaviours of Ghanaian school-aged adolescents are examined. To provide robust evidence on the potential effects of SES on adolescents' health and health behaviours, this study utilised a complex analysis that allows both the direct effect of SES on health and health behaviours as well as the total effect of SES on health and health behaviours in the presence of several control variables and proposed mediators to be determined. Such analysis was carried out to identify how the effects of SES on health and health behaviours vary in the presence of other crucial mediating/moderating variables such as social capital; thus, offering the justification to carry out further analysis to explore the potential psychosocial (indirect) effects of SES on school-aged adolescents' health and health behaviours. Further details on the indirect effect of SES on health and health behaviours are provided in Chapter 9 and Chapter 10.

7.2 Statistical Methods

7.2.1 Measures

Health and health behaviours are the key outcomes or dependent variables in this study. Health outcomes employed are self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS) (comprising a composite score from headache; stomachache; feeling low, irritable, or bad tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours are physical activity (PA) and multiple health risk behaviours (MHRB) (comprising a composite score from sexual health, bullying, alcohol use, substance use, and smoking).

The key independent variable is SES. Other variables include diverse constructs of social capital which were included in the analytical model as potential mediators: family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), school sense of belonging (SSB), school autonomy and support (SAS), community sense of belonging (CSB) and peer-based social network (PSN). The control variables included personal, family, school, and region demographics: age, gender, religion, family structure, class level, geographical location, and bullying.

The composite score measures of the variables involving the 1206 adolescents were used for the analysis in AMOS-structural equation modelling in SPSS (see Chapter 4 for measurement and coding of the variables).

7.2.2 Analytical Methods

This study hypothesised that SES would have direct effects on the health and health behaviour outcomes of the adolescent participants (H1a-H1e). It was also proposed

that while SES can have a direct impact on adolescents' health and health behaviour outcomes, this relationship can possibly be mediated by social capital as shown in the study's theoretical framework. Hence, based on this study's theoretical framework and hypothesised models, the effect of SES on health and health behaviours was examined in a mediation model in AMOS-structural equation modelling in SPSS version 26.

In a mediated model which contains control variables and mediators, the assumptions are that the effect of SES can be categorised as a direct effect which is the direct effect of SES on the outcomes after excluding mediated effects of social capital (assume mediation occurring) and total effects which are the effects of SES including all mediated effects of social capital (assume no mediation occurring).

To explain further, the total effect is the effect of an independent variable on a dependent variable. However, in a path analysis model like the one employed in this study, controls, and mediators are included in the analysis model, therefore, total effect in the study of causal effects, is the total extent to which the dependent (outcome) variable changes by the independent (or predictor) variable, including any indirect effect through a mediator (an assumption that there is no mediation taking place or no mediators). This is often called the unmediated effect in an unmediated model. In a simple example, if the independent variable, *X*, is supposed to cause the outcome variable, *Y*, the path coefficient of this direct effect, *C*, is the total effect. If there is an intervening variable, linked by two path coefficients, *A* and *B*, this indirect effect is *AB*, and the total effect is $C + AB$. In Figure 7.1, two models of relationships between variables are depicted: the total-effect model and the mediation model. In simple terms, from Figure 7.1 the total effect is the effect of the independent variable (SES) on the dependent variables (health and health behaviours), whereas the mediator

(social capital) is the variable responsible for the effect of the independent variable on the dependent variables (Baron & Kenny, 1986; Hayes, 2009; Preacher et al., 2007).

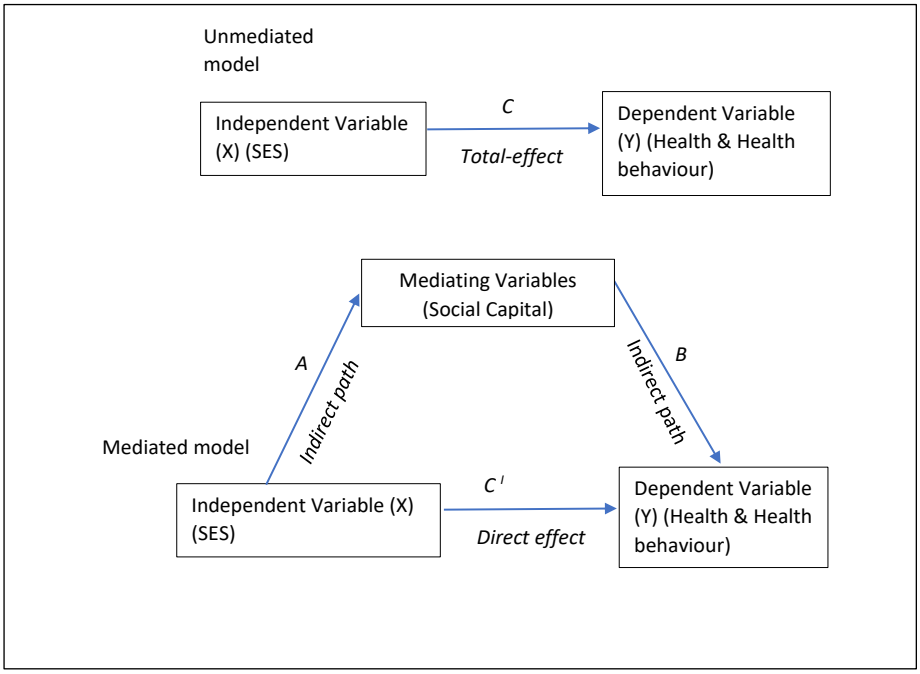

Figure 7.1. Total-effect model and mediation model. A mediator model decomposes the total effect, C, into the indirect effect, AB (product of the indirect paths a and b), and the direct effect, C^I (with the effect of the mediator removed). The total effect is illustrated as C = C^I + AB, and hence the indirect effect as AB = C – C^I (Burger et al., 2013).

Comparison between the direct and total effects enables the identification of whether the relationship between SES and health and health behaviours solely direct relationships are and that there are no possibilities of indirect relationships. Thus, no possibility of the effect of SES being mediated by social capital in the analytical models. For instance, where the direct effect is insignificant, but the total effect is significant, it offers an indication of possible mediation occurring. Knowing the direct and total effects of SES, thus, allows for further mediation assessment as proposed in

this study to be reported as well as calculation of the specific percentage ratio of mediated effects offered by each of the mediators. Further details on mediation analysis are provided in Chapter 9 and Chapter 10.

Due to the reason that there were too many variables employed in the study, separate analyses were done to examine the effect of SES on each dependent variable since combining all the dependent variables in one model was not fit for analysis. Five mediated models were hence employed for the analysis of the relationship between SES and health and health behaviours. In Model 1, the relationship between SES and SRH was examined, in Model 2, the relationship between SES and MHPS was examined. In Model 3 the relationship between SES and SSC was examined, whereas, in Model 4 and Model 5, the relationship between SES and PA and MHRB were examined respectively. All the models contained the sociodemographic variables (controls), SES, and all the social capital constructs (FSB, FAS, FC, PSS-Fa, SSB, SAS, CSB, and PSN). Weighted regression analyses were performed in the models to determine the direct and total effects of SES on health and health behaviour outcomes. All the models were fit for analysis as explained in Chapter 6 of this thesis (see Table 7.1). In the models, a bootstrap sample of 5000 was used. Significant effects were determined at a confidence interval of 95% and a significance level of $p<0.05$.

7.3 Multivariate Results

7.3.1 Total and Direct Effects of Socioeconomic Status on Health and Health Behaviours

This study hypothesised that SES would significantly predict all measures of health and health behaviours (H1a-H1e). The effect sizes of SES in the models were overall not enormous but were in some cases significant. Regarding the health outcomes, the Models (Model1, Model 2 and Model 3) in Table 7.1 infer that there were significant

total effects of SES on SRH (*B* = 0.078, 95% BC CI = [0.042, 0.110]) and SSC (*B* = 0.244, 95% BC CI = [0.167, 0.317]) but insignificant for MHPS. Regarding the health behaviour outcomes, the Models (Model 4 and Model 5) in Table 7.1 indicate that the total effect of SES on physical activity was significant (*B* = 0.052, 95% BC CI = [0.032, 0.071]) but insignificant for MHRB. Also, although the total effect of SES on SRH was significant, the direct effect of SES on SRH was insignificant suggesting possible mediation occurring. There were significant direct positive effects of SES on SSC (*B* = .136, SE = .041, *p*<.001) and physical activity (*B* = .022, SE = .011, *p*<.05). The direct effects of SES on MHPS and MHRB were also not significant. Therefore, H1a, H1c, and H1e were not supported. Regarding the control variables, gender had more significant effects on all outcomes of the participants' SRH, SSC, MHPS, PA, and MHRB. Age, religion, class level, and experiences of bullying showed significant total effects on the various outcomes (see Table 7.1). Gender, age, religion, geographical location, and bullying also showed significant direct effects on some measures of health and health behaviours. The model fitting summaries show that the models were all fit for the analysis (see Table 7.1).

Table 7.1: Total and Direct Effects of Socioeconomic Status (SES) on In-School Adolescents' Health and Health Behaviours

Model Fitting Summary				
IFI=.988, CF1=.988, RMSEA=.079	IFI=.988, CFI=.988, RMSEA=.079	IFI=.988, CF1=.988, RMSEA=.079	IFI=.988, CF1=.988, RMSEA=.079	IFI=.990, CFI=.989, RMSEA=.079

Total Effects

Variables	**Model 1 SRH**		**Model 2 MHPS**		**Model 3 SSC**		**Model 4 PAS**		**Model 5 MHRB**	
Independent variable	***B***	**95%BC CI**	***B***	**95%BC CI**	***B***	**95%BC CI**	***B***	**95%BC CI**	***B***	**95%BC CI**
SES	**0.078**	**(0.042, 0.110)*****	**-0.018**	**(-0.080, 0.044)**	**0.244**	**(0.167, 0.317)****	**0.052**	**(0.032, 0.071)*****	**-0.021**	**(-0.043, 0.001)+**
Controls										
Gender	0.245	**(0.101, 0.379)****	-0.724	**(-0.987, -0.448)*****	0.698	**(0.357, 1.022)*****	0.230	**(0.137, 0.321)*****	0.169	**(0.075, 0.267)****
Age	0.287	**(0.090, 0.492)****	-0.249	(-0.632, 0.164)	0.098	(-0.377, 0.586)	0.004	(-0.134, 0.138)	0.091	(-0.045, 0.229
Religion	0.129	(-0.036, 0.290)	-0.500	**(-0.808, -0.196)****	0.531	**(0.157, 0.916) ***	0.042	(-0.055, 0.136)	0.033	(-0.080, 0.141
Family structure	0.132	(-0.017, 0.278)	-0.205	(-0.479, 0.061)	0.285	(-0.055, 0.620)	0.004	(-0.089, 0.094)	-0.051	(-0.153, 0.051
Location	0.030	(-0.005, 0.066)	-0.004	(-0.072, 0.058)	0.072	(-0.010, 0.158)	-0.005	(-0.026, 0.018)	0.007	(-0.019, 0.032
Class level	-0.081	(-0.179, 0.006)	-0.097	(-0.283, 0.089)	0.078	(-0.159, 0.301)	-0.093	**(-0.154, -0.030) ***	-0.012	(-0.081, 0.059
Bullied	-0.174	**(-0.323, -0.032)***	0.614	**(0.353, 0.897)*****	-0.418	**(-0.756, -0.059)***	-0.004	(-0.100, 0.086)	1.142	**(1.036, 1.246)*****
Direct Effects										
	B	**SE**	***B***	**SE**	***B***	**SE**	***B***	**SE**	***B***	**SE**
SES	**.023**	**(.017)**	**.044**	**(.033)**	**.136**	**(.041) *****	**.022**	**(.011) ***	**-.004**	**(.012)**
Controls										
Gender	.099	(.068)	-.534	**(.132)*****	.434	**(.164)***	.169	**(.043)*****	.211	**(.049)*****
Age	.254	**(.096)***	-.220	(.185)	.051	(.232)	.001	(.061)	.105	(.069)
Religion	.051	(.077)	-.433	**(.150)****	.381	**(.187)***	.013	(.049)	.053	(.056)
Family structure	.025	(.069)	-.060	(.134)	.103	(.168)	-.069	(.044)	-.014	(.050)
Location	.041	**(.017)***	-.015	(.033)	.084	**(.041)***	.003	(.011)	.003	(.012)
Class level	-.057	(.046)	-.134	(.088)	.142	(.110)	-.060	(.029)	-.016	(.033)

Bullied	-.078	(.069)	.493	**(.134)*** **	-.229	(.168)	.048	(.044)	1.107	**(.056)*** **
-	-	-	-	-	-	-	-	-	-	-

N= 1,206, *B*= unstandardised coefficients, BC CI= Bias corrected percentile confidence interval, SE= standard error, ****p*<.001, ***p*<.005 **p*<.05, + = *p*=.059. All the social capital indicators were included in all the Models.

CHAPTER EIGHT

THE RELATIONSHIPS BETWEEN PSYCHOSOCIAL SOCIAL CAPITAL AND SCHOOL-AGED ADOLESCENTS' HEALTH AND HEALTH BEHAVIOURS

8.1 Introduction

Several psychosocial dimensions of social capital have been reported to have the potential to protect individuals against diverse social, economic, and developmental disadvantages (Coleman, 1988; Bourdieu 1986; Putnam, 1993; WHO, 2008; Morgan 2010). Likewise, the role of various measures of psychosocial social capital in the promotion of positive health and healthy behaviours of the populace has been upheld by the WHO-CSDH (WHO, 2008). The important role of social capital as a complement in policy strategies across some developed countries is evidence of the need to advocate for the promotion of social capital as a protective *health asset* to scholars and policy practitioners in the health promotion of young people. Nonetheless, though many studies have examined the influence of social capital on adults' health and health behaviours, limited studies have examined how social capital in different social contexts influences young people's health and health behaviours (Eriksson et al., 2011; Bwalya & Sukumar, 2017) more especially regarding school-aged adolescents in particularly the low and middle-income country (LMIC) context.

Therefore, a comprehensive approach is needed to examine how school-aged adolescents' health and health behaviours are influenced by psychosocial social capital in different contexts-groups such as the family, school, community, and peers' contexts in LMICs. This chapter of the thesis, therefore, examines the effects of psychosocial social capital on the health and health behaviours of school-aged adolescents in Ghana

by considering the family, school, community, and peer contexts of young people. This would help promote connection among various agents in these contexts to boost young people's accumulation of social capital from diverse social groups. Carrying out this study in the LMIC context is very critical as it would deliver international-level insight for all stakeholders about which aspects and contexts of young people's lives are at risk of social injustices and demand urgent policy, intervention, and practice prioritisation. It also addresses WHO's demand for researchers to create awareness of the critical role of social determinants in populations' health and health behaviours. These will consequently promote advocacy for research and policy that offer equal opportunities for all adolescents to attain healthy lives and positive health behaviours, especially in LMICs thereby contributing to the Global Sustainable Development Goals (SDGs)-Goal 3 and Goal 10 (UN, 2022).

8.2 Statistical Methods

8.2.1 Measures

The key outcome variables were health and health behaviours. Health outcomes employed are self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS) (comprising a composite score from headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours are physical activity (PA) and multiple health risk behaviours (MHRB) (comprising a composite score from sexual health, bullying, alcohol use, substance use, and smoking).

The key independent variable is social capital. Diverse constructs of social capital: family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), school sense of belonging (SSB), school autonomy and support (SAS), community sense of belonging (CSB) and

peer-based social network (PSN) which were included in the analytical model as potential mediators were assessed using regression tools in AMOS-SEM to determine the direct effects of social capital on the outcome variables. The control variables included personal, family, school, and regional demographics: age, gender, religion, family structure, class level, geographical location, and bullying. SES was included in the models as another independent variable.

The composite score measures of the variables involving the 1206 adolescents were used for the analysis in AMOS-structural equation modelling (see Chapter 4 for measurement and coding of the variables).

8.2.2 Analytical Methods

This study hypothesised that social capital would have direct effects on school-aged adolescents' SRH, SSC, MHPS, PA, and MHRB (H2a-H2c, H3a-H3c, H4a-H4c, H5a-H5c, H6a-H6c, H7a-H7c, H8a-H8b, H9a-H9b). Therefore, based on this study's theoretical framework and hypothesised models (see Chapter 3), five mediation models were employed in AMOS-structural equation modelling in SPSS for the analysis of the relationship between social capital and health and health behaviours. In Model 1, the relationship between social capital and SRH was examined and in Model 2, the relationship between social capital and MHPS was examined. In Model 3 the relationship between social capital and SSC was examined, whereas, in Model 4 and Model 5, the relationship between social capital and PA and MHRB were respectively examined. All the models contained the sociodemographic variables (controls), SES, and all the social capital constructs (FSB, FAS, FC, PSS-Fa, SSB, SAS, CSB, and PSN). Regression analyses were performed in the models to determine the direct effects of social capital on health and health behaviour outcomes. All the models were fit for

analysis as explained in Chapter 6 of this thesis (see Table 8.1 and Table 8.2). In the models, bootstrap sample of 5000 was used. Significant effects were determined at a confidence interval of 95% and a significance level of $p<0.05$.

8.3 Multivariate Results

8.3.1 Direct Effects of Psychosocial Social Capital on Health Outcomes

It was hypothesised that all the measures of social capital would significantly predict the health outcomes-SRH, SSC, and MHPS after accounting for SES and the sociodemographic factors (H2a-H2c, H3a-H3c, H4a-H4c, H5a-H5c, H6a-H6c, H7a-H7c, H8a-H8b, H9a-H9b). As hypothesised, FSB (B =.045, SE = .009, $p<.001$), FAS (B = .010, SE = .004, $p<.05$), PSS-Fa (B = .042, SE = .013, $p<.001$), CSB (B = .030, SE = .011, p =.005), and SSB (B = .022, SE = .009, $p<.05$) positively and significantly predicted SRH while FC (B = -.020, SE = .008, $p<.05$) negatively predicted SRH (Model 1). Also, FSB (B = .058, SE = .022, $p<.05$), FAS (B = .042, SE = .010, $p<.001$), PSS-Fa (B = .093, SE = .031, $p<.005$) and SSB (B = .046, SE = .021, $p<.05$) positively predicted SSC (Model 3). Moreover, as shown in Model 2, adolescents with high FSB (B = -.043, SE = .017, $p<.05$), high PSS-Fa (B = -.073, SE = .025, $p<.005$), high SSB (B = -.044, SE = .017, $p<.05$), and CSB (B = -.060, SE = .021, p=.005) were less likely to experience high MHPS. Adolescents with high FC (B = .033, SE = .016, $p<.05$) were, however, more likely to experience high MHPS. While a negative relationship between PSN and MHPS was proposed, the findings unexpectedly revealed a positive effect of PSN (B = .076, SE = .037, $p<.05$) on MHPS in Model 2. Some hypotheses-H6c, H8b, H4b, H6c, H7a, H7b, H9a, H9b were not supported as FAS and SAS did not significantly predict MHPS; FC and CSB did not predict SSC; and SAS and PSN did not predict SSC and SRH. All the models were all fit for the analyses (see Table 8.1).

Table 8.1: Results for The Direct Effect of Social Capital on Adolescents' Health

Model Fitting Summary			
	IFI=.988, CF1=.988, RMSEA=.079, Chi-square=34.097	IFI=.988, CFI=.988, RMSEA=.079, Chi-square=34.097	IFI=.988, CF1=.988, RMSEA=.079 Chi-square=34.097
	Model 1 SRH	**Model 2 MHPS**	**Model 3 SSC**
Independent variables	*B* **(SE)**	*B* **(SE)**	*B* **(SE)**
Family S. Belonging -FSB	**.045(.009)*** **	**-.043(.017) ***	**.058(.022)***
Family Aut. Support -FAS	**.010(.004)***	-.009(.008)	**.042(.010)*** **
Family Control-FC	**-.020(.008)***	**.033(.016) ***	-.001(.019)
Family Social Support-PSS-Fa	**.042(.013)*** **	**-.073(.025) ** **	**.093(.031)** **
School S. Belonging-SSB	**.022(.009)***	**-.044(.017) ***	**.046(.021)***
School Aut. Support-SAS	.015(.024)	.091(.047)	.000(.058)
Peer-based S. Network-PSN	.002(.019)	**.076(.037) ***	.033(.046)
Community S. Belonging-CSB	**.030(.011)**** $^{+}$	**-.060(.021)**** $^{+}$	.042(.026)
Covariates			
SES	.023(.017)	.044(.033)	**.136(.041)*** **
-	-	-	-

N= 1,206, *B*= unstandardised coefficients, SE= standard error, ****p*<.001, ***p*<.005 **p*<.05, **$^{+}$ = p = .005. All controls were included in the models (see direct effects in Table 7.1)

8.3.2 Direct Effect of Psychosocial Social Capital on Health Behaviours

All the measures of social capital were hypothesised to significantly predict physical activity and multiple health risk behaviours (hypotheses:H2d, H2e, H3d, H3e, H4d, H4e, H5d, H5e, H6d, H6e, H7d, H7e, H8d, H8e, H9d, and H9e). Supporting the hypotheses, FSB (*B* =.019, SE = .006, *p*<.005), PSS-Fa (*B* = .023, SE = .008, *p*=.005), CSB (*B* = .047, SE = .007, *p* =.001), and SSB (*B* = .017, SE = .006, *p*<.005) positively predicted physical activity in Model 4. Contrary to H8d and H7d, FC (*B* = .011, SE = .005, *p*<.05) positively predicted PA while SAS (*B* = -.035, SE = .015, *p*<.05) negatively predicted PA respectively. Hypotheses-H6d and H9d were not supported because FAS and PSN had no significant effects on PA.

Regarding multiple health risk behaviours in Model 5, most of the hypotheses (H3e, H4e, H6e, H7e, H8e, and H9e) were not supported as only FSB (*B* = -.020, SE =

.006, p<.005) and PSS-Fa (B = -.026, SE = .009, p=.005) significantly predicted MHRB as hypothesised. All the employed models were fit for analyses (see Table 8.2).

Table 8.2: Result for The Direct Effect of Social Capital on Adolescents' Health Behaviours

Model Fitting Summary		
	IFI=.988, CF1=.988, RMSEA=.079, Chi-square=34.097	IFI=.988, CFI=.988, RMSEA=.079, Chi-square=34.097
	Model 4 PA	**Model 5 MHRB**
Independent variables	*B* **(SE)**	*B* **(SE)**
Family S. Belonging-FSB	**.019(.006)****	**-.020(.006)****
Family Aut. Support-FAS	.002(.003)	.000(.003)
Family Control-FC	**.011(.005)***	.002(.006)
Family Social Support-PSS-Fa	**.023(.008)**$^{+}$**	**-.026(.009)**$^{+}$**
School S. Belonging-SSB	**.017(.006)****	-.012(.006)
School Aut.Support-SAS	**-.035(.015)***	-.002(.017)
Peer-based S. Network-PSN	.009(.012)	-.001(.014)
Community S. Belonging-CSB	**.047(.007)*****	.007(.008)
Covariates		
SES	**.022(.011)***	-.004(.012)
-	-	-

N= 1,206, *B*= unstandardised coefficients, SE= standard error, ***p<.001, **p<.005 *p<.05, **$^{+}$ = p = .005. All controls were included in the models (see direct effects in Table 7.1)

CHAPTER NINE

SOCIOECONOMIC STATUS AND HEALTH OUTCOMES: MEDIATING AND MODERATING MECHANISMS OF PSYCHOSOCIAL SOCIAL CAPITAL

9.1 Introduction

As the critical role of social determinants of health has been acknowledged worldwide, the need to promote social approaches (including social connectedness) to public health has globally become imminent, especially for the health promotion of young people (WHO, 2008; Currie et al., 2012). Existing studies posit that socioeconomic inequalities during adolescence wield their impact through psychosocial mechanisms arising from family, friends, school, and communities (Richter et al., 2012; Moor et al., 2014). Thus, while socioeconomic status (SES) has detrimental direct effects on populations' health (Morgan & Haglund, 2009; Morgan, 2010; Morgan & Haglund, 2012; McPherson et al., 2013), it is also reported to have psychosocial effects (indirect effects) on populations' health outcomes through social capital (Xue et al., 2005; WHO, 2008; Kohen et al., 2008). Nevertheless, generally, limited research exists on how social capital manifests its protective role or mechanisms in the relationship between SES and the health of school-aged adolescents particularly in low and middle-income countries (LMICs). Thus, there is inadequate evidence on whether social capital offer mediating and/or moderating benefits to the health outcomes of school-aged adolescents amidst socioeconomic inequalities exist. As reported earlier, there are controversies in the literature about what exactly is the mechanism role of social capital on health outcomes. This prompts researchers to provide further evidence on what protective role or mechanisms diverse constructs of social capital offer to varied dimensions of health,

taking into consideration the diverse social contexts of young people, especially those living in disadvantaged socioeconomic circumstances.

Employing the health asset approach (Morgan, 2010), findings from this thesis as presented in Chapter 7 also indicate that there is the possibility that the effects of SES on the employed health outcomes (self-rated health, satisfaction with self-confidence, and experiences of multiple health/psychosomatic symptoms) were mediated or moderated by social capital after accounting for all control variables. In this chapter, the exact protective role or psychosocial mechanism benefits of social capital to health is therefore explored by examining both the mediating and moderating effects of social capital in the relationship between SES and diverse dimensions of school-aged adolescents' health. To the best of the authors' knowledge, this will be the first study to utilise the *health asset approach* to simultaneously offer evidence on both the mediating and moderating roles of proposed protective health assets (Morgan, 2010:2011) in the relationship between SES and school-aged adolescents self-rated health, satisfaction with self-confidence and experiences of multiple health/psychosomatic symptoms.

This study promotes psychosocial social capital and *health asset approaches* to tackling health-related effects of SES, as such, would provide vigorous theoretical and evidence-based policy recommendations that can potentially guide how SES and social capital-related programmes and interventions targeting adolescents in the family, school, peer, and community contexts are delineated in LMICs. This will also contribute to the academic discourses on how social capital manifests its psychosocial mechanisms in the SES-health relationship in the specific Ghanaian context.

9.2 Statistical Methods

9.2.1 Measures

The main dependent variables employed were health and health behaviours. The health outcomes employed were self-rated health (SRH), multiple health/psychosomatic symptoms (MHPS) (a composite item involving headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours were physical activity (PA) and multiple health risk behaviours (MHRB) (a composite item involving sexual health, bullying, alcohol use, substance use, and smoking).

The key independent variable or predictor is SES. As depicted in this study's theoretical and hypothesised models, diverse constructs of social capital: family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), school sense of belonging (SSB), school autonomy and support (SAS), community sense of belonging (CSB) and peer-based social network (PSN) were included in the analytical model as potential mediators and moderators in the relationship between SES and the dependent variables. The control variables included personal, family, school, and regional demographics: age, gender, religion, family structure, class level, geographical location, and bullying.

The composite score measures of the variables involving the 1206 adolescents were used for the analysis in AMOS-structural equation modelling (see Chapter 4 for measurement and coding of the variables).

9.2.2 Analytical Methods

It was hypothesised that social capital would mediate as well as moderate the relationship between SES and school-aged adolescents' SRH, SSC, and MHPS. Hence,

based on this study's theoretical framework and hypothesised models (see Chapter 3), three mediation models were employed in AMOS-structural equation modelling in SPSS for the analysis of the mediating role of social capital in the relationship between SES and the health outcomes. In Model 1 and Model 2, the indirect effects of SES on SRH and MHPS through the various constructs of social capital were respectively examined. In Model 3 the indirect effects of SES on SSC through the various constructs of social capital were examined. In these models, both the specific and combined mediated effects of social capital were determined (see Table 9.1). Knowing the total effects of SES on the health outcomes, the specific ratio/proportion of the total effect of SES that was mediated by the specific social capital constructs was calculated (see Table 9.1). In the models, a bootstrap sample of 5000 was used.

Again, one moderation model was employed in AMOS-structural equation modelling in SPSS for the moderation analysis involving the moderating role of social capital in the relationship between SES and the five dependent variables. Therefore, in this model, the moderating effect of social capital on the relationship between SES and health outcomes (SRH, SSC, and MHPS) were examined concurrently. For the moderation analysis, standardised Z-scores of all the measures of social capital and SES were calculated in SPSS descriptive analysis. Each of the new derived social capital variables-Z-scores interacted with the new derived SES variable-Z-score of SES (Z-scores (SES*FSB, SES*FAS, SES*FC, SES*PSS-Fa, SES*SSB, SES*SAS, SES*CSB, SES*PSN) for the analysis. Regression analyses were performed in the models to determine the unmoderated effects of SES and social capital on health outcomes. The effects of the interaction between SES and social capital-moderated effects on SRH, SSC, and MHPS were also assessed (see Table 9.2). The interaction plots of significant moderated effects were done using Excel spreadsheet statistical moderation analysis

tool. This analytical tool employs excel worksheet to plot a two-way interaction effect of variables using unstandardised coefficients.

Information including the coefficients of the effects of the independent variables, moderators and the interaction effects on the outcome variables obtained from the SEM analysis were entered into the tool separately for each outcome variable, and the graphs were plotted using two categories of the independent variables and moderators based on the coefficients provided at an intercept/constant value of 3.4.

All the models used for the mediation and moderation analyses contained the sociodemographic variables (controls), SES, and all the social capital constructs (FSB, FAS, FC, PSS-Fa, SSB, SAS, CSB, and PSN). All the models were fit for analysis as explained in Chapter 6 of this thesis (see Table 8.1 and Table 8.2). Significant effects were determined at a confidence interval of 95% and a significance level of $p<0.05$.

9.3 Multivariate Results

9.3.1 Specific and Combined Indirect/Mediating Effects of Psychosocial Social Capital in the Relationships Between Socioeconomic Status and Health Outcomes

It was hypothesised that there are indirect effects of SES through social capital and that social capital would mediate the relationship between SES and SRH, MHPS, and SSC (H1Aa-H1Ac, H2Aa-H2Ac, H3Aa-H3Ac, H4Aa-H4Ac, H5Aa-H5Ac, H6Aa-H6Ac, H7Aa-H7Ac, H8Aa-H8Ac). The indirect effects were tested using a percental bootstrapping estimation approach with a bootstrap sample of 5000.

Model 1 in Table 9.1 and Figure 9.1 infer that FSB (indirect effect = .020, 95% BC CI = [.010, .032]) FAS, (indirect effect = 0.008, 95% BC CI = [.001, .017]), FC (indirect effect = .004, 95% BC CI = [.001, .008]), PSS-Fa, (indirect effect = .014, 95% BC CI = [.005, .025]) and CSB (indirect effect = .007, 95% BC CI = [.002, .015])

mediated the effects of SES on SRH. While not all the measures of social capital were significant mediators, the combined mediated effect of all the measures of social capital was significant (indirect effect =0 .054, 95% BC CI = [.039, .072]). Also, about 71% proportion of the total effect of SES on SRH was mediated by all the employed measures of social capital. From Table 9.1, some of the hypotheses regarding SRH (H2Aa, H6Aa, H8Aa) were not supported.

Model 2 in Table 9.1 and Figure 9.2 show that FSB (indirect effect = -.019, 95% BC CI = [-.038, -.004]), FC (indirect effect = -.006, 95% BC CI = [-.015, -.001]), PSS-Fa (indirect effect =-.024, 95% BC CI = [-.043, -.008]), PSN (indirect effect =.012, 95% BC CI = [.001, .027]) and CSB (indirect effect = -.014, 95% BC CI = [-.028, -.005]) mediated the effects of SES on MHPS. Although not all the measures of social capital were significant mediators, the combined mediated effect of all the measures of social capital was significant (indirect effect = -.062, 95% BC CI = [-.090, -.037]). The total proportion of the total effect of SES on MHPS that was mediated by social capital could not be determined due to the presence of inconsistent mediation (suppression effect of SES) occurring because the indirect effect is negative (see Table 9.1). The result shows that some of the hypotheses regarding MHPS (H2Ac, H5Ac, and H6Ac) were not supported.

Model 3 in Table 9.1 and Figure 9.3 indicate that FSB (indirect effect = .025, 95% BC CI = [.006, .048]) FAS, (indirect effect = .033, 95% BC CI = [.016, .055]), and PSS-Fa, (indirect effect = .030, 95% BC CI = [.012, .055]) mediated the relationship between SES and SSC. The combined mediated effect of social capital measures was significant (indirect effect =.108, 95% BC CI = [.075, .147]). Also, about 44% proportion of the total effect of SES on SSC was mediated by all the employed measures

of social capital. The result infers that most of the hypotheses regarding SSC (HAb, H3Ab, H6Ab, H7Ab and H8Ab) were not supported.

Table 9.1: Bootstrapping Mediation Analysis Indirect Path of SES to Adolescents' Health Outcomes

Indirect Pathways	Model 1 SRH	Model 2 MHPS	Model 3 SSC	Ratio (*100) Specific Mediation Effect to Total Effect[a] (%)		
	B (95%CI)	***B (95%CI)***	***B (95%CI)***	**SRH**	**MHPS** [+]	**SSC**
			Specific Mediated Effects			
SES → FSB → (SRH /MHPS /SSC)	**.020(.010, .032)*** **	**-.019(-.038, -.004)***	**.025(.006, .048)***	25.641	-	10.246
SES → FAS → (SRH/ MHPS /SSC)	**.008(.001, .017)***	-.007(-.022, .007)	**.033(.016, .055)*** **	10.246	-	13.524
SES → FC → (SRH/ MHPS /SSC)	**.004(.001, .008)***	**-.006(-.015, -.001)***	.000(-.007, .007)	5.128	-	0.000
SES → PSS-Fa → (SRH/MHPS/SSC)	**.014(.005, .025)****	**-.024(-.043, -.008)****	**.030(.012, .055)****	17.948	-	12.295
SES → SSB → (SRH/ MHPS /SSC)	.002(.000, .006)	-.004(-.012, .001)	.004(-.001, .013)	2.564	-	1.639
SES → SAS → (SRH/ MHPS /SSC)	.000(-.002, .001)	.000(-.006, .004)	.000(-.003, .003)	0.000	-	0.000
SES → PSN → (SRH/ MHPS /SSC)	.000(-.006, .007)	**.012(.001, .027)***	.005(-.010, .022)	0.000	-	2.049
SES → CSB → (SRH/ MHPS /SSC)	**.007(.002, .015)****	**-.014(-.028, -.005)****	.010(-.002, .025)	8.974	-	4.098
Combined Mediated Effects	***.054(.039, .072)****	***-.062(-.090, -.037)*****	***.108(.075, .147)*****	***70.501***		***43.851***

N= 1,206, *B*= unstandardised coefficients, CI= confidence intervals. [a] Ratio calculated as 100 × (indirect effect (*B)* / total effect), where the total effect is the sum of all mediation effects (i.e., the sum of indirect effects) and the direct effect (Mascha et al., 2013). [+] = presence of inconsistent mediation ("suppression effect'') where SES' direct effect is larger than the zero-order (total effect) and some indirect effects are larger than the total effect often because the indirect effect is negative (Mackinnon et al., 2000; Kenny, 2018).

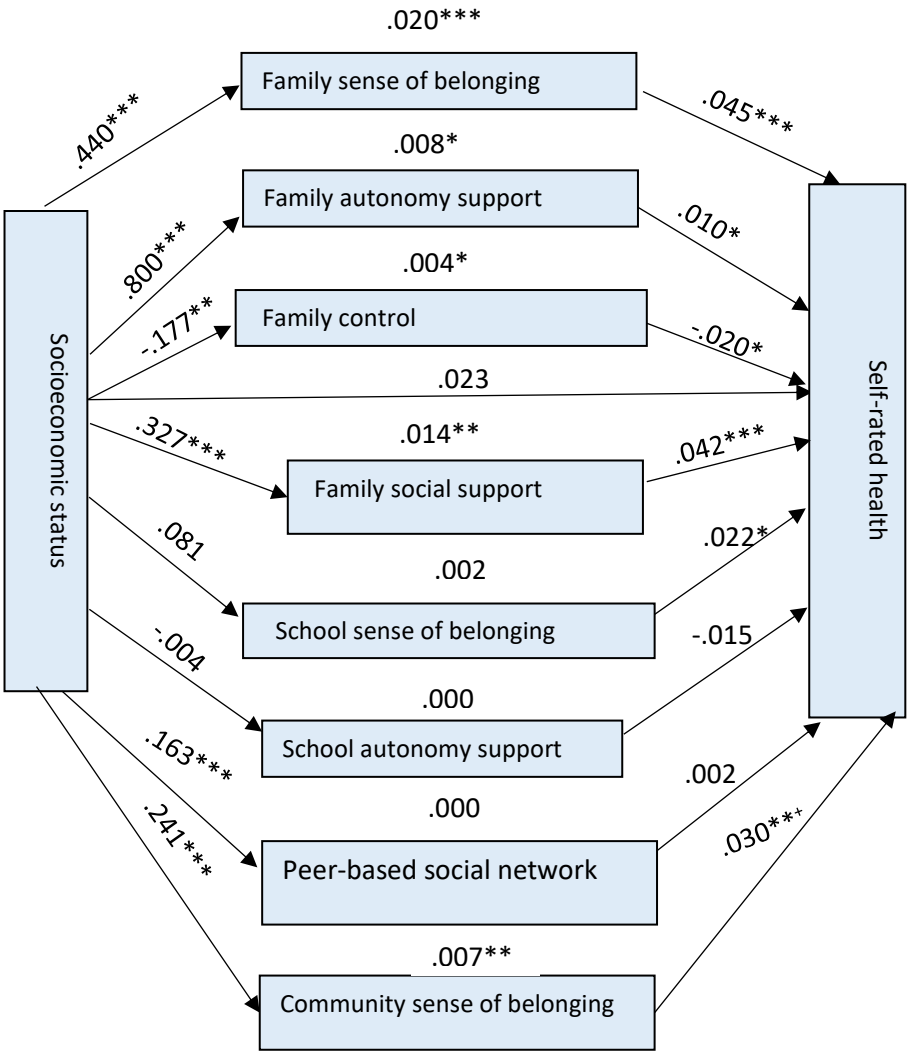

Figure 9.1: Path estimates in Model 1 for the mediating effect of social capital in the relationship between adolescents' SES and self-rated health (N = 1, 206; ***p<.001, *p<.05, **$^{+}$= p=.005)

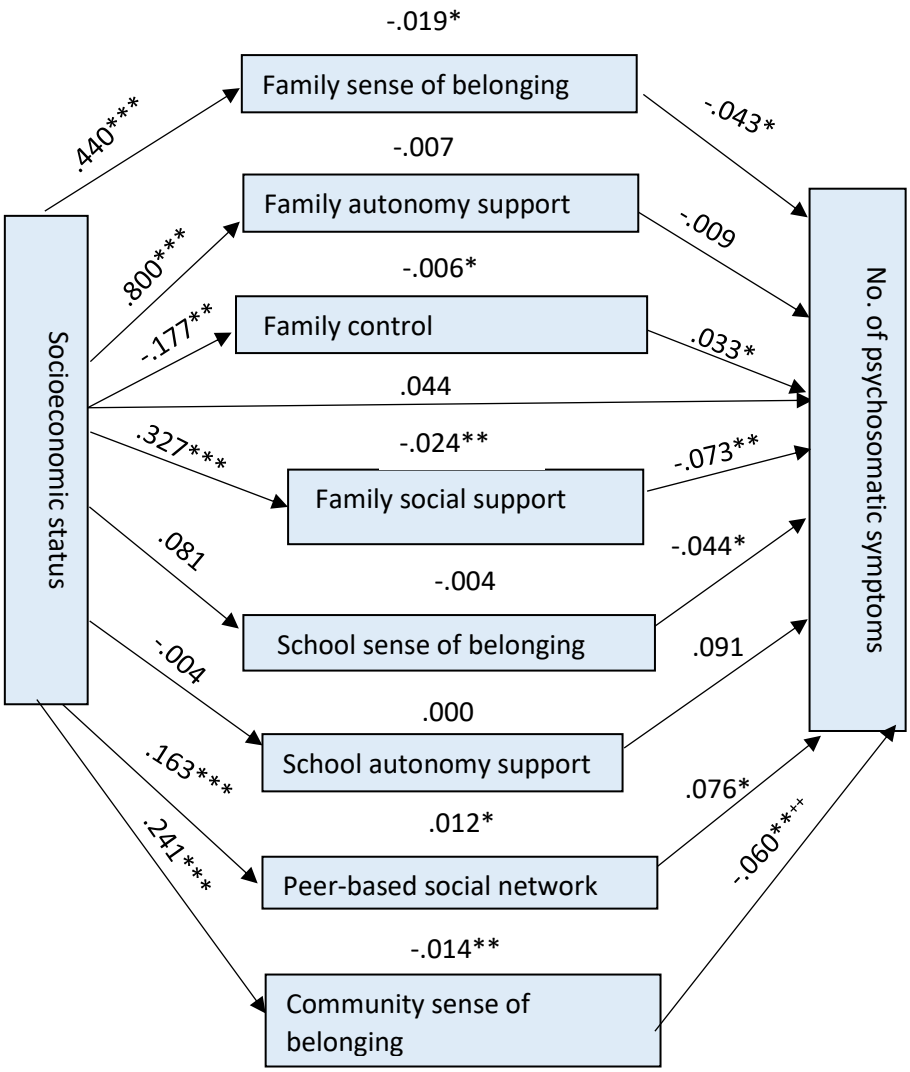

Figure 9.2: Path estimates in Model 2 for the mediating effect of social capital in the relationship between adolescents' SES and multiple psychosomatic symptoms (N = 1, 206; ***p<.001, *p<.05, **$^{++}$= p=.05)

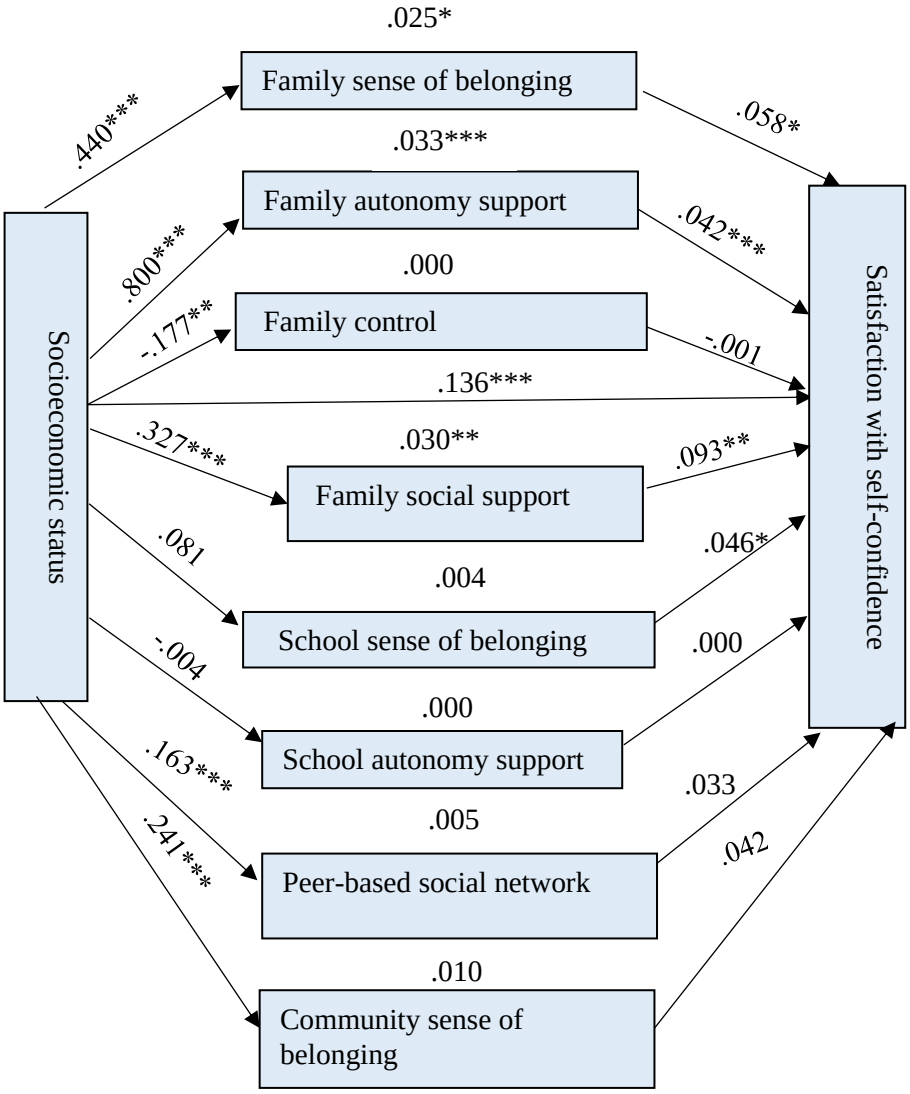

Figure 9.3: Path estimates in Model 3 for the mediating effect of social capital in the relationship between adolescents' SES and self-confidence (N = 1, 206; ***p<.001, *p<.05).

9.3.2 Moderating Effect of Psychosocial Social Capital on the Relationships Between SES and Health Outcomes

The study proposed that there could be some potential moderating effects of social capital on the relationship between SES and adolescents' health behaviours. The result showed that most of the employed social capital constructs played no moderating roles in the relationship between SES and the specific health outcomes employed in this

study for the specific Ghanaian adolescents' context. This study hypothesised that all the measures of social capital as moderators would strengthen/weaken the positive or negative relationship between SES and SRH, MHPS, and SSC (H1Ba-H1Bc, H2Ba-H2Bc, H3Ba-H3Bc, H4Ba-HBc, H5Ba-H5Bc, H6Ba-H6Bc, H7Ba-H7Bb, H8Ba-H8Bc).

According to Table 9.2, the interaction between SES and the social capital constructs resulted in changes in the effect sizes on the outcomes (SRH, MHPS, and SSC) when the unmoderated effects sizes are compared to the interacted variables' effect sizes (moderated effects). However, these changes were not significant to be considered that moderation has taken place. Only CSB was confirmed to be a significant moderator in the relationship between SES and SRH (see Figure 9.4). Thus, CSB strengthened the positive relationship between SES and SRH. This implies that adolescents with both high SES and high CSB were more likely to have higher SRH than adolescents with low SES and high CSB. The findings generally show that only hypothesis H3Ba was supported.

Table 9.2: Moderating Effect of Social Capital on the Relationship Between SES and Adolescents' Health Outcomes

Model Fitting Summary			
	IFI=.988, CF1=.988, RMSEA=.078, Chi-square=74.852		
Variables			
	SRH	**MHPS**	**SSC**
	***B* (SE)**	***B* (SE)**	***B* (SE)**
	Unmoderated Effects		
SES	**.034(.016)***	.041(.033)	**.144(.041)*****
FSB	**.035(.009)*****	**-.037(.018)***	.042(.022)
FAS	**.010(.004)***	-.009(.008)	**.043(.010)*****
FC	**-.017(.008)***	**.034(.016)***	.001(.019)
PSS-Fa	**.034(.012)***	**-.071(.025)****	**.094(.031)****
SSB	.015(.009)	**-.044(.017)***	**.045(.021)***
SAS	.029(.023)	.087(.047)	.002(.058)
PSN	.020(.019)	**.081(.037)***	.016(.047)
CSB	**.020(.011)***	**-.062(.021)****	.044(.027)
	Moderated Effects		
SES*FSB	-.066(.041)	.039(.083)	-.193(.103)
SES*FAS	-.040(.037)	.025(.076)	-.033(.094)
SES*FC	.054(.034)	-.035(.070)	-.052(.087)
SES*PSS-Fa	.005(.042)	.001(.085)	.094(.105)
SES*SSB	-.017(.040)	.056(.081)	-.30(.100)
SES*SAS	-.041(.036)	.045(.073)	-.033(.091)
SES*PSN	.023(.033)	-.057(.067)	-.070(.083)
SES*CSB	**.096(.033)****	.081(.067)	-.157(.084)
-	-	-	-

N= 1,206, *B*= unstandardised coefficients, SE= standard error, ****p*<.001, ***p*<.005, **p*<.05. All controls were included in the model

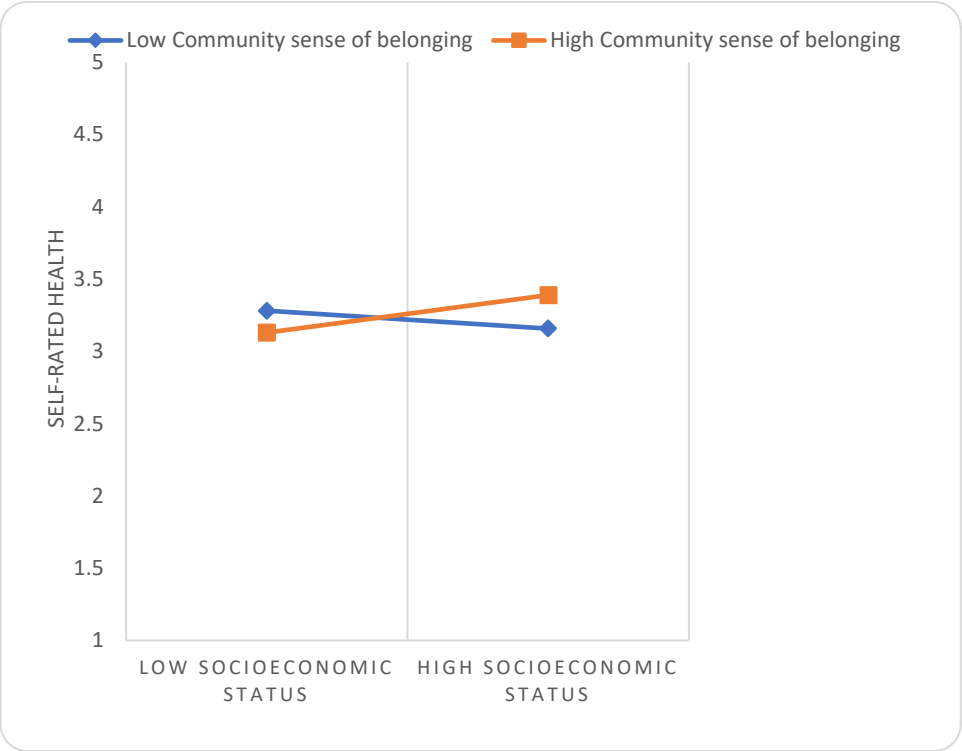

Figure 9.4: Graph of the interaction effect of community sense of belonging on SES' effects on self-rated health.

CHAPTER TEN

SOCIOECONOMIC STATUS AND HEALTH BEHAVIOURS: MEDIATING AND MODERATING MECHANISMS OF PSYCHOSOCIAL SOCIAL CAPITAL

10.1 Introduction

SES which often results from social structures in societies is believed to exert its influences on the populace's health behaviours through psychosocial factors such as psychosocial social capital, and likewise, psychosocial factors can influence the impact of SES on health behaviours (Caughy et al., 2008, Odgers et al., 2009; Elgar et al., 2010; Morgan, 2010; De Clercq et al., 2012). This implies that psychosocial dimensions of social capital are capable of either mediating and/or moderating the effect of SES on health behaviour outcomes; thus, a protective mechanism function of social capital in the SES-health behaviour relationship has been proposed (Morgan, 2010). Addressing the determinants of health behaviour including the psychosocial social capital of young people especially adolescents in LIMCs is, thus, particularly critical for contributing to the global health promotion of young people as the majority of the world's adolescents are in LMICs (Viner, 2017).

In Morgan's (2010) social capital framework for studying young people's health, social capital is proposed as a mediator in the relationship between SES and young people's health behaviour. Psychosocial dimensions of social capital including a sense of belonging, autonomy, and control, social support, and social network within the family, school, peers' contexts, and communities are therefore projected in this framework as protective health assets that can empower young people to achieve

positive health behaviours. Yet evidence on whether these constructs truly play mediating roles in the SES-health behaviour relationship remains scarce in the literature. Also, while no moderating effect of the proposed health assets was claimed in the framework, it would be noteworthy for researchers to explore the potential of this health assets-social capital as potential moderators. Findings from such investigations will be beneficial for social and public health policy and health promotion interventions for young people.

This thesis, thus, examines the potential mediating and/or moderating effects of psychosocial social capital in the SES-health behaviour of school-aged adolescents (health promoting and multiple health risk behaviours) relationship after accounting for all control variables. To the best of the author's knowledge, this is an original study that employs the *bioecological system theory* and *health asset approach* to simultaneously provide evidence on both the mediating and moderating mechanisms of proposed protective health assets (Morgan, 2010) in the relationship between SES and school-aged adolescents' health-promoting behaviour and health risk behaviour.

Findings from this study would offer vital theoretical and evidence-based policy proposals that can drive how SES and social capital-related programmes and interventions targeting adolescents' health behaviours are defined in LMICs. This will also contribute to the academic discourse on how social capital establishes its psychosocial mechanisms in the SES-health behaviour relationship in the specific Ghanaian context.

10.2 Statistical Methods

10.2.1 Measures

Health and health behaviour outcomes were the dependent variables. The measures of health outcomes employed were self-rated health (SRH), multiple

health/psychosomatic symptoms (MHPS) (a composite item involving headache; stomachache; feeling low, irritable, or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy) and satisfaction with self-confidence (SSC). The measures of health behaviours were physical activity (PA) and multiple health risk behaviours (MHRB) (a composite item involving sexual health, bullying, alcohol use, substance use, and smoking). SES is the main independent or predictor variable. Based on this study's theoretical and hypothesised models, diverse constructs of social capital: family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), school sense of belonging (SSB), school autonomy and support (SAS), community sense of belonging (CSB) and peer-based social network (PSN) were included in the analytical model as potential mediators and moderators in the relationship between SES and the health behaviour measures. The control variables comprised personal, family, school, and regional demographics: age, gender, religion, family structure, class level, geographical location, and bullying. The composite score measures of the variables involving the 1206 adolescents were used for the analysis (see Chapter 4 for measurement and coding of the variables).

10.2.2 Analytical Methods

It was hypothesised that psychosocial social capital would mediate as well as moderate the relationship between SES and school-aged adolescents' PA and MHRB. Per the theoretical framework and hypothesised models proposed in this study (see Chapter 3), two mediation models were utilised in AMOS-structural equation modelling in SPSS for the analysis of the mediating role of social capital in the relationship between SES and the health behaviour outcomes. In Model 4 and Model 5, the indirect effects of SES on PA and MHRB through the employed constructs of social capital were

respectively examined. In these models, both the specific and combined mediated effects of social capital were determined (see Table 10.1). The obtained total effects of SES on the health behaviour outcomes enabled the specific ratio/proportion of the total effect of SES that was mediated by the specific social capital constructs to be calculated (see Table 10.1). In the models, a bootstrap sample of 5000 was used.

One moderation model was employed in AMOS-structural equation modelling in SPSS for the moderation analysis involving the moderating role of social capital in the relationship between SES and the five dependent variables. Hence, in this model, the moderating effect of social capital on the relationship between SES and health behaviour outcomes (PA and MHRB) was examined simultaneously. For the moderation analysis, standardised Z-scores of all the measures of social capital and SES were calculated in SPSS descriptive analysis. Each of the new derived social capital variables-Z-scores was interacted with the new derived SES variable-Z-score of SES (Z-scores (SES*FSB, SES*FAS, SES*FC, SES*PSS-Fa, SES*SSB, SES*SAS, SES*CSB, SES*PSN) for the analysis. Regression analyses were performed in the models to determine the unmoderated effects of SES and social capital on health outcomes. The effects of the interaction between SES and social capital-moderated effects on PA and MHRB were also assessed (see Table 10.2).

The interaction plots of significant moderated effects were done using Excel spreadsheet statistical moderation analysis tool. The same procedure for plotting the moderated graphs for the health outcomes as explained earlier in the previous chapter was used to plot the moderated graphs for the health behaviours. All the models used for the mediation and moderation analyses contained the sociodemographic variables (controls), SES, and all the social capital constructs (FSB, FAS, FC, PSS-Fa, SSB, SAS, CSB, and PSN). All the models were fit for analysis as explained in Chapter 6

of this thesis (see Table 10.1 and Table 10.2). Significant effects were determined at a confidence interval of 95% and a significance level of $p<0.05$.

10.3 Multivariate Results and Discussion

10.3.1 Specific and Combined Indirect/Mediating Effects of Psychosocial Social Capital in the Relationships Between Socioeconomic Status and Health Behaviours

A potential indirect effect of SES on adolescents' health behaviour was proposed. It was hence hypothesised that all the employed constructs of social capital would mediate the relationship between SES and PA and MHPS and SSC (H1Ad-H1Ae, H2Ad-H2Ae, H3Ad-H3Ae, H4Ad-H4Ae, H5Ad-H5Ae, H6Ad-H6Ae, H7Ad-H7Ae, H8Ad-H8Ae). The indirect effects were tested using a percental bootstrapping estimation approach with a bootstrap sample of 5000. Model 4 in Table 10.1 and Figure 10.1 infer that FSB (indirect effect = .008, 95% BC CI = [.003, .015]), FC (indirect effect = -.002, 95% BC CI = [-.005, .000]) (the negative confidence interval is related to the negative effect of FC in the model, hence the result showed a significant mediating effect despite that both the lower and upper intervals are in different directions), PSS-Fa, (indirect effect = .007, 95% BC CI = [.002, .014]) and CSB (indirect effect = .011, 95% BC CI = [.007, .017]) mediated the effects of SES on PA. The combined mediated effect of all the constructs of social capital was significant (indirect effect =.029, 95% BC CI = [.020, .041]). All the employed measures of social capital mediated about 56% proportion of the total effect of SES on PA. From Table 10.1, some of the hypotheses regarding PA (H2Ad, H5Ad, H6Ad, H8Ad) were not supported. Model 5 in Table 10.1 and Figure 10.2 show that FSB (indirect effect = -.009, 95% BC CI = [-.016, -.003]) and PSS-Fa (indirect effect = -

.008, 95% BC CI = [-.016, -.002]) mediated the effects of SES on MHRB. Although not all the constructs of social capital were significant mediators, the combined mediated effect of all the measures of social capital was significant (indirect effect = -.017, 95% BC CI = [-.028, -.008]). The result, therefore, shows that only hypotheses-H1Ad and H4Ad regarding MHRB were supported. Finally, social capital mediated about 95% of the total effect of SES on MHRB with FSB and PSS-Fa each mediating about 43% and 38% respectively (see Table 10.1).

Table 10.1: Bootstrapping Mediation Analysis. Indirect Path of SES to Adolescents' Health Behaviours

Indirect Pathways	Model 4 PA	Model 5 MHRB	Ratio (*100) Specific Mediation Effect to Total Effect[a] (%)	
	B (95%CI)	***B (95%CI)***	**PA**	**MHRB⁺**
		Specific Mediated Effects		
SES → FSB → (PA / MHRB)	**.008(.003, .015)****	**-.009(-.016, -.003)****	15.385	42.857
SES → FAS → (PA / MHRB)	.001(-.003, .006)	.000(-.005, .006)	1.923	0.000
SES → FC → (PA / MHRB)	**-.002(-.005, .000)***	.000(-.003, .002)	0.038	0.000
SES → PSS-Fa → (PA / MHRB)	**.007(.002, .014)***	**-.008(-.016, -.002)***	13.462	38.095
SES → SSB → (PA / MHRB)	.001(.000, .004)	-.001(-.004, .000)	1.923	4.761
SES → SAS → (PA / MHRB)	.000(-.001, .002)	.000(-.001, .001)	0.000	0.000
SES → PSN → (PA / MHRB)	.001(-.003, .006)	.000(-.002, .006)	1.923	0.000
SES → CSB → (PA / MHRB)	**.011(.007, .017)*****	.002(-.002, .006)	21.154	9.524
Combined Mediated Effect	***.029(.020,.041)******	***-.017(-.028,-.008)******	***55.808***	**95.237**

N= 1,206, *B*= unstandardised coefficients, CI= confidence intervals. [a] Ratio calculated as 100 × (indirect effect (*B)* / total effect), where the total effect is the sum of all mediation effects (i.e., the sum of indirect effects) and the direct effect (Mascha et al., 2013).

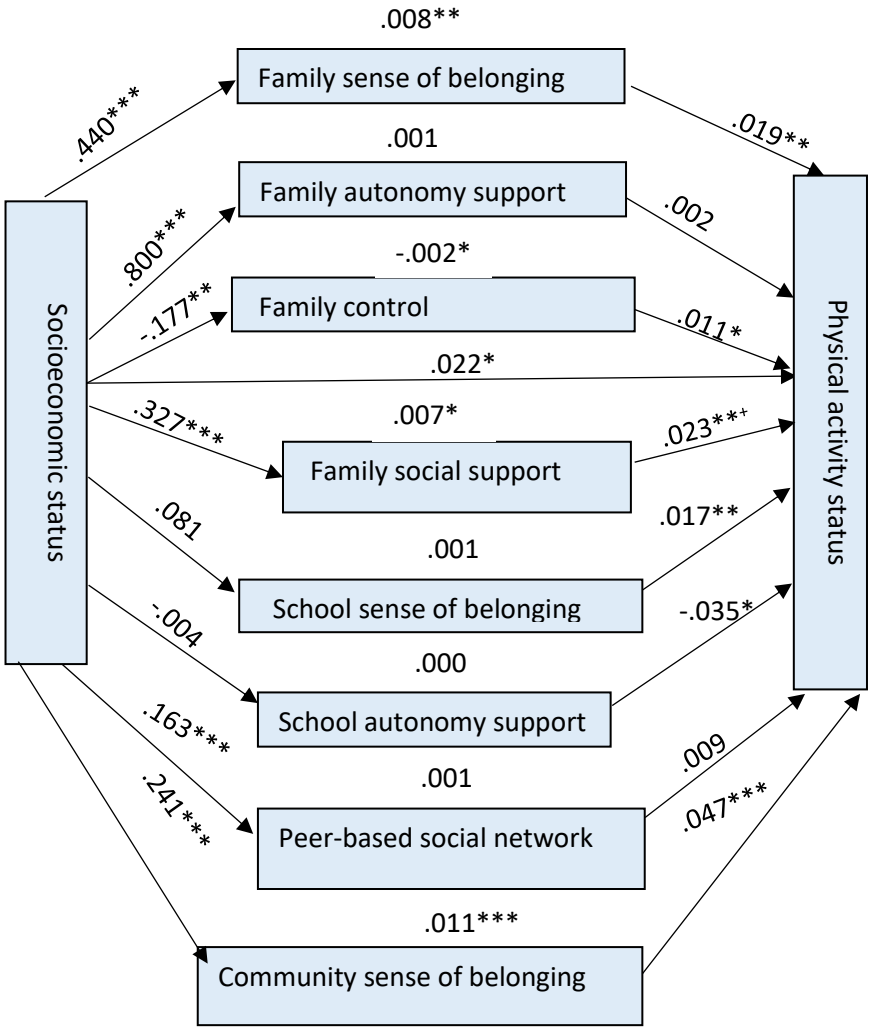

Figure 10.1: Paths estimates in Model 4 (N = 1, 206; ***p<.001, *p<.05, $^{+}$=p=0.005)

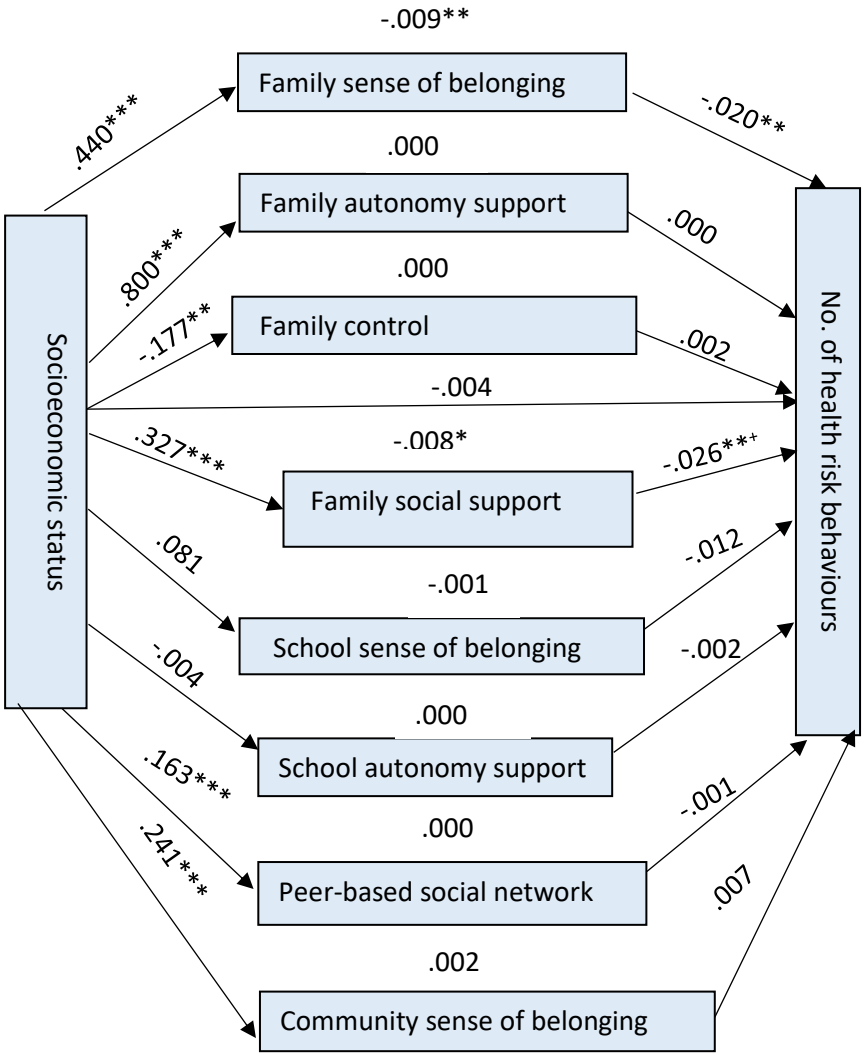

Figure 10.2: Path estimates in Model 5 (N = 1, 236; ***p<.001, *p<.05, $^{+}$=p=0.005)

10.3.2 Moderating Effect of Psychosocial Social Capital on the Relationships Between SES and Health Behaviours

The study sought to also examine if there could be any potential moderating effects of social capital on the relationship between SES and adolescents' health outcomes. The result showed that compared to the employed social capital indicators playing more of a mediating role, these constructs played less of a moderating role in the relationship between SES and the specific health outcomes employed in this study for the specific

Ghanaian adolescents' context.

This study hypothesised that all the measures of social capital as moderators would strengthen/weaken the positive or negative relationship (moderate) between SES and SRH, MHPS, and SSC (H1Bd-H1Be, H2Bd-H2Be, H3Bd-H3Be, H4Bd-HBe, H5Bd-H5Be, H6Bd-H6Be, H7Bd-H7Be, H8Bd-H8Be). Table 10.2 indicates that the interaction between SES and the social capital constructs resulted in changes in the effect sizes on the outcomes (PA and MHRB) when the unmoderated effects sizes are compared to the interacted variables' effect sizes (moderated effects). However, these changes in effect sizes were not significant. Only PSS-Fa and CSB were confirmed to be significant moderators in the relationship between SES and PA and MHRB respectively. Thus, CSB strengthened the negative relationship between SES and MHRB. This implies that adolescents with high SES and higher CSB were more likely to have lower experiences of MHRB than adolescents with low SES and lower CSB. Also, PSS-Fa unexpectedly weakened the positive relationship between SES and PA. Thus, although adolescents with low SES but high PSS-Fa were more likely to report higher physical activity-PA than adolescents with low SES and low PSS-Fa, adolescents with high SES and high PSS-Fa reported lower PA. The findings overall show that only hypotheses- H3Be and H4Bd were supported.

Table 10.2: Moderating Effect of Social Capital on the Relationship Between SES and Adolescents' Health Behaviours

Model Fitting Summary		
	IFI=.988, CF1=.988, RMSEA=.078, Chi-square=74.852	
Variables		
	PA	**MHRB**
	***B* (SE)**	***B* (SE)**
	Unmoderated Effects	
SES	**.022(.011)***	-.008(.012)
FSB	**.021(.006)*****	**-.016(.007)***
FAS	**.001(.003)**	-.001(.003)
FC	**.011(.005)***	.003(.006)
PSS-Fa	**.020(.008)***	-.027(.009)
SSB	**.016(.006)****	-.012(.006)
SAS	**-.033(.015)***	-.001(.017)
PSN	.006(.012)	-.004(.014)
CSB	**.048(.007)*****	.008(.008)
	Moderated Effects	
SES*FSB	.045(.027)	.057(.031)
SES*FAS	.028(.025)	.008(.028)
SES*FC	-.008(.023)	-.021(.026)
SES*PSS-Fa	**-.065(.028)***	-.022(.032)
SES*SSB	.006(.026)	.048(.030)
SES*SAS	-.019(.024)	-.003(.027)
SES*PSN	.006(.012)	.003(.025)
SES*CSB	-.017(.026)	**-.054(.025)***
-	-	-

N= 1,206, *B*= unstandardised coefficients, SE= standard error, ****p*<.001, ***p*<.005, **p*<.05. All controls were included in the models

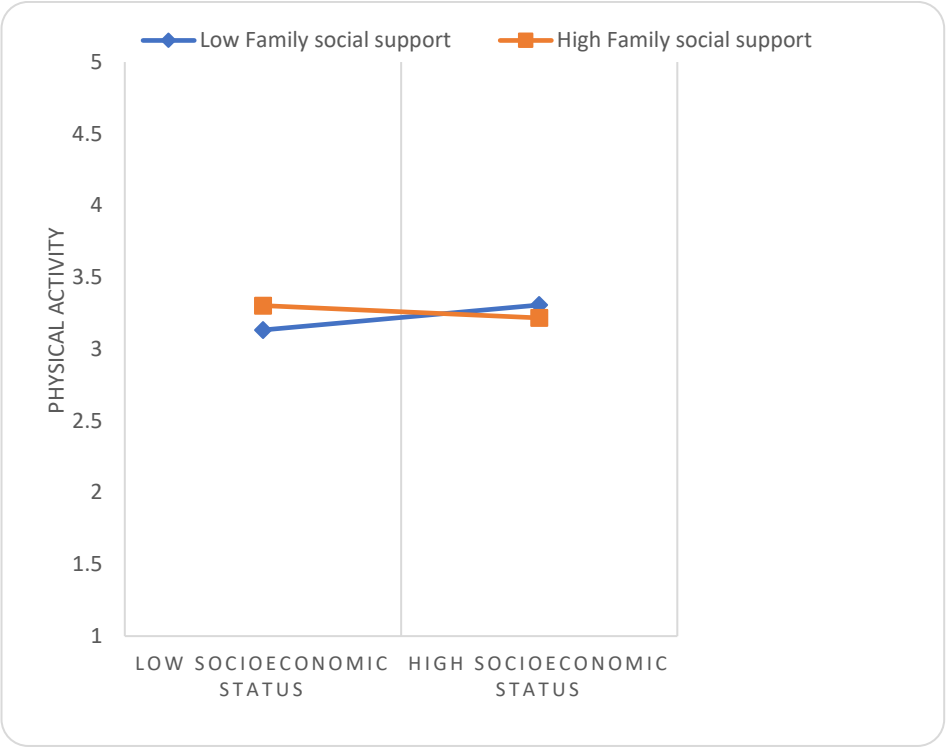

Figure 10.3: Interaction effect of family social support on SES' effects on physical activity.

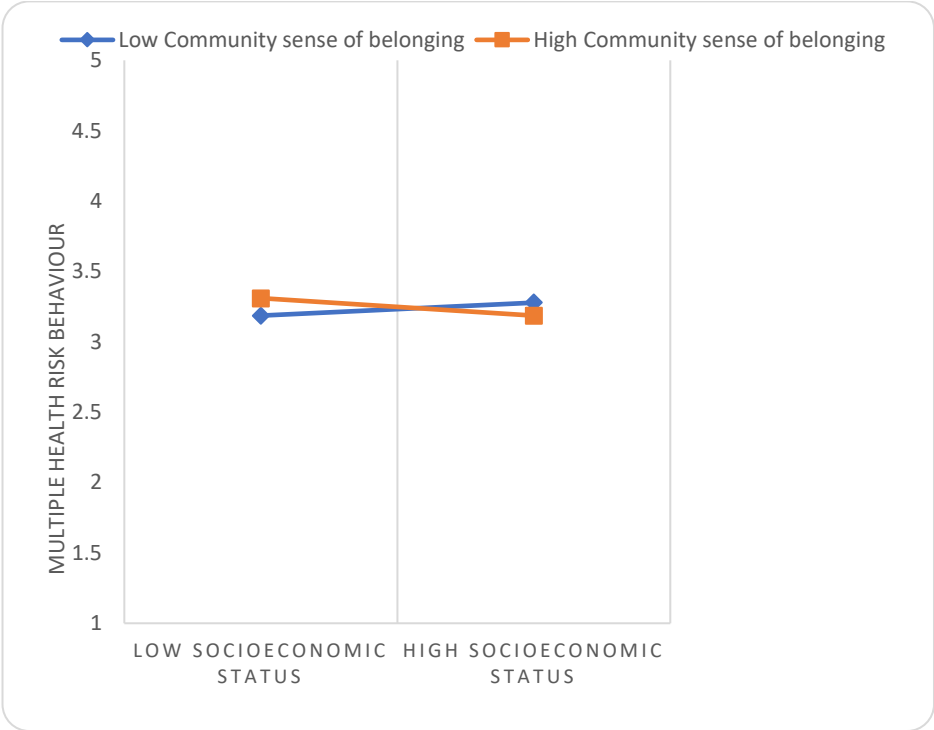

Figure 10.4: Graph of the interaction effect of community sense of belonging on SES' effects on multiple health risk behaviours.

CHAPTER ELEVEN

QUALITATIVE STUDY

SOCIAL CAPITAL AS A PROTECTIVE HEALTH ASSET FOR ADOLESCENTS' HEALTH-RELATED OUTCOMES: ADOLESCENTS' PERSPECTIVES AND EXPERIENCES

11.1 Introduction

The significant contribution of psychosocial social capital as a protective health asset to adolescents' health-related outcomes has been greatly asserted by scholars from often high-income countries (Morgan, 2010:2011; Morgan et al., 2012; McPherson et al., 2013; McPherson et al., 2014). Most of these pieces of evidence have however resulted from quantitative studies with scarce qualitative evidence to offer deeper insight into how social capital manifests its protective role in the lives of adolescents. Thus, while the 'what' discourse on *what is the relationship between social capital and health-related outcomes*? has generally received consideration in the literature, the 'how' discourse on *how social capital is related to SES and health-related outcomes* in the same study has generally been overlooked by social capital researchers (Eshan et al., 2019).

As already explained in this thesis, there has been in recent years a call for scholars in public health to investigate the social determinants of young people's health and health behaviours from a *health asset approach* (Morgan 2010:2011). Nevertheless, largely, while limited quantitative studies have employed the *health asset approach* to examine the protective role of social capital in the relationship between SES and health-related outcomes of adolescents, no qualitative study to the authors' knowledge has utilised the *health asset approach* to explore how social capital exhibits its protective health asset functions in the relationship between SES and

adolescents' health-related outcomes from adolescents' perspectives, especially in low-and middle-income countries (LMICs) such as Ghana.

Therefore, although not meant to interpret the findings from the quantitative study, this qualitative study offers support to the broader quantitative study presented in this thesis which sought to add to the academic discourse on *what is the psychosocial mechanisms of social capital for adolescents' health and health behaviours in the presence of SES?* This qualitative study, therefore, aims to add to the academic discourse and provide qualitative evidence on *how social capital manifests its psychosocial mechanisms and protects adolescents' health-related outcomes in the presence of SES*.

This qualitative study was developed based on findings from the broader quantitative study of which parts are presented in this thesis. A preliminary analysis of the quantitative study showed that the relationship between SES and the participants' health-related outcomes especially psychological/mental well-being-happiness was not fully in line with the study's assumption that all adolescents with high SES would report high happiness while all adolescents with low SES would report low happiness. The qualitative inquiry which employed focus group discussions, therefore, focused on exploring the perspectives and experiences of the participants of the quantitative study on what could have resulted in the variations in the mental well-being-happiness of adolescents from both high and low socioeconomic backgrounds in the study region. The responses of the participants revealed that psychosocial social capital had played a protective role and hence functioned as a health asset for the happiness of adolescents in the study region against the effects of SES. This finding stimulated further inquiries that could offer support to various claims made in the presented quantitative study. Hence, this qualitative study was developed by using the *health asset approach* as a

guide to interpret and make deductions from the narrations/findings from the focus group discussion's participants. Through the participants' responses, deeper insight into how psychosocial social capital can function as a protective health asset for adolescents' health-related outcomes was achieved. Therefore, this chapter of the thesis reports school-aged adolescents' perspectives and experiences related to what adolescents consider important for promoting/protecting adolescents' health-related outcomes in the presence of SES and poverty.

In the next sections of this chapter, first, an overview of the methodology is provided as a detailed explanation has already been provided in Chapter 4 of this thesis. The remaining sections present the findings from the focus group discussions and the discussions and conclusions of the findings. Due to scarce qualitative data on the topic addressed in this chapter, to support or explain findings from this study, inferences would be made from quantitative studies related to this study. The importance of the study findings to research and practice is also elaborated.

11.2 Materials and Methods

Both the quantitative and qualitative study reported in this thesis forms part of a broader study I carried out. Another outcome that was included in the broader quantitative study was *mental well-being-happiness* which is an indicator of the adolescents' mental health. This qualitative study presented in this thesis therefore forms part of a broader mixed study and was developed as a follow-up inquiry to address findings from the broader quantitative study. After a preliminary analysis of the quantitative survey was done during the data collection phase, it was revealed that some of the study hypotheses related to the happiness of the study adolescents were not supported. As such, this qualitative study was developed to investigate further what could have resulted in the inconsistent findings on the relationship between SES and

the happiness of the adolescents. This qualitative study subsequently, provides qualitative evidence on the protective role of psychosocial social capital in the relationship between the school-aged adolescents' SES and health-related outcomes, hence, providing a supporting role to the main quantitative study presented in this thesis.

Preliminary results from the quantitative survey showed that contrary to the study hypothesis, some adolescents from high SES households reported a low level of mental well-being-happiness, some adolescents from low SES households reported a high level of mental well-being-happiness. Finding from this study have been published which show that consequently, SES could not predict the participants' happiness (Addae, 2020a). The driving question for the follow-up qualitative study presented in this thesis, therefore was to investigate from the study participants' perspectives *what other factors influenced the mental well-being (happiness) of the adolescents from both high and low SES households in the region?* Answer to this question would be very crucial to offering qualitative evidence on potential protective health assets that can enable even adolescents from poor socioeconomic backgrounds to attain positive health-related outcomes as proposed in the quantitative study presented in this thesis.

Although the key concept-*happiness* presented in the qualitative study differs from the outcomes presented in the quantitative study in this thesis, *happiness* is a crucial indicator of adolescents' mental well-being or state which is highly linked to their health (How happiness affects health | American Heart Association). Also, according to the American Heart Association, *happiness leads to healthier behaviours* (How happiness affects health | American Heart Association,pg1) Therefore, there is the possibility that explanations for how social capital protects adolescents happiness

(mental/subjective well-being) as revealed from the focus group discussions could offer cues as to how social capital manifests its protective mechanisms to their health outcomes including health behaviours. Moreover, the participants found it easier to understand the concept of *happiness* than other health-related concepts that were employed in the broader study, hence, their ability to share more perspectives and experiences of protective factors for their mental well-being and mental health.

To answer the driving question for this qualitative study, follow-up focus group discussions were carried out with 54 adolescents who participated in the quantitative survey. The focus group discussions hence involved in-school adolescents selected from 14 schools comprising 7 senior high schools and 7 junior high schools (4 students per school) selected from the Upper West region of Ghana. Thus, each focus group involved 4 students (two females and two males). To ensure that different opinions were obtained from adolescents from different socioeconomic backgrounds, the participants were grouped into less privileged and privileged adolescents. The selection of the participants into these two categories was done by the school authorities based on certain criteria provided to the authorities by the researcher. For example, less privileged adolescents could be identified by their inability to pay school fees regularly. Colour coding was included in pseudonyms and used to identify the two groups of study participants during the discussion with blue representing privileged adolescents and pink representing less privileged adolescents. Since all participants had taken part in the broader study, consent from their guardians and parents was sought before they took part in the study. Pseudonyms were used and assent from the selected participants was sought and permission to audio record the discussion and use the data for research purposes were sought. They were also informed that the discussion was a follow-up to the quantitative survey they partook

in.

During the focus group discussions, the specific questions that were based on the study's driven question included: *what are your opinions on why some "rich'' adolescents in this region reported having low levels of happiness? What are your opinions on why some "poor'' adolescents in this region reported having high levels of happiness?* The terms 'rich' and 'poor' were defined to the participants as the level of material affluence reported in the quantitative study. Further probing questions were asked depending on the participants' responses. The participants were encouraged to share their perspectives and experiences regarding the topic being discussed.

The interview/discussion was transcribed verbatim, and the thematic content analysis strategies outlined by Braun and Clarke (2006) were employed to identify themes arising from the discussion by the researcher and the research assistant. Guided by the health asset approach and social capital framework for young people (Morgan, 2010), we employed a deductive approach and undertook open coding where a line-by-line reading of the data was conducted to code interview excerpts related to the key research questions. Themes were then developed independently based on what can be classified as psychosocial social capital and health assets by both researchers and findings were compared to identify common arising themes from the interviews. Interpretations of findings made by the researcher were further cross-checked with the research assistant who is a native of the study region to ensure consistency and accuracy in interpretations of the findings.

11.3 Result

To address the key research question *what other factors influenced the mental well-being (happiness) of adolescents from both high and low SES households in the region?* the participants' accounts revealed *psychosocial social capital* as the only key

factor that could have potentially influenced adolescents' mental well-being in the study region as reported in the quantitative study. This informed the theme developed for this qualitative study and several codes were identified to offer more meaning to the theme. Thus, one main theme *'psychosocial social capital as a protective health asset against effects of SES'* was identified to represent what could have protected the mental well-being of the adolescents in the region from the effects of socioeconomic status. The participants' accounts revealed several codes that depicted several indicators of psychosocial social capital presented in the present quantitative study in this thesis*: parent-child relationship, parent-child communication, family sense of belonging, family social support, family autonomy support and control, peer relationship, peer social support, community sense of belonging, and community social support* that were perceived to contribute to the mental well-being of adolescents. Moreover, their account revealed three key social contexts (*family, community, and peers*) that were crucial for providing psychosocial social capital for protecting adolescents' mental well-being. Their accounts again revealed three key health-related outcomes that can be protected by social capital, positive *mental health, physical health, and health behaviours*. The majority of their accounts were, however, centered on happiness as presented in the key research question. It was further followed-up questions that revealed the other two health-related outcomes aside happiness.

Subsequently, this qualitative study presents the result and discussions on adolescents' perspectives and experiences of how several dimensions of psychosocial social capital taking into consideration contexts can function as protective health assets for health-related outcomes of adolescents from both low and high socioeconomic households. This will help address the call for researchers to qualitatively explore how

social capital affects individuals' health (Eshan et al., 2019). First, in this section, the narration of the participants' accounts related to the broader theme of *psychosocial social capital as a protective health asset against the effects of SES* is provided. The remaining sections provide detailed reports on how various dimensions of psychosocial social capital that were reported by the adolescents to protect their mental well-being-happiness evident their benefits for adolescents irrespective of their socioeconomic status (SES).

11.3.1 Psychosocial Social Capital

Generally, the participants reported that high SES alone is inadequate to promote positive health-related outcomes, rather the presence of high psychosocial social capital is what determines whether high SES will make a difference in adolescents' health-related outcomes, especially regarding their positive mental health, physical health, and health behaviours. From the participants, social capital especially familial, peers, and community social capital play crucial roles in annulling the effect of poverty and socioeconomic status on adolescents' health-related outcomes such as *happiness, joy, perceived meaning in life, loneliness, perceived neglect/social isolation, physical health, physical activity, and risky behaviours*. Broadly, it was narrated that for adolescents to achieve positive health-related outcomes especially, optimum happiness, they must be able to socially connect with people in their societies even beyond the family context. Happiness is highly linked to mental health (McPherson et al., 2014).

The narrations inferred that psychosocial social capital is very crucial and it is a necessity for even adolescents from high socioeconomic family backgrounds. Thus, irrespective of being from a rich/affluent family, the absence of psychosocial social capital can diminish the happiness of rich adolescents and limits the expected positive

contribution that high socioeconomic status could offer to adolescents' mental health as narrated below:

> *The kind of life you live will determine who you are or who you will be. Now, let's assume that me, I have money, I get all the things I want, but the kind of relationship between me and other people is not that kind of cordial relationship that can bring peace between us. So, even though I have money alright, I don't feel happy because I am not connected to other people. Yeah, there is a far distance between other people and me, this will make me always feel lonely although I may have a family. You know, that's why we say family goes beyond being born into the family. One thing is that when you continue to live with a particular group of people, you get used to them, you feel like going outside, making friends and all those things. So, if I don't have that kind of cordial relationship with people outside, it can also bring me down and although I have the money, I will not be able to be happy as I would have expected to* (Blue Ori).

Others explained how adolescents' emotional needs are very important to their happiness besides socioeconomic status. However, to attain emotional needs, they need to form bonds with others so that they can share their problems and joys with them:

> *To my understanding, in life, it does not necessarily mean that if you have money or everything that will make you happy. Sometimes a person will be rich, but still that person is not happy, why? Because of the person's emotional needs. The person is having money, everything but let's say if you are having money, everything but when you share your problems with others, no one minds*

you, or you want to talk to someone, but no one is minding you, you will not feel happy. You will always be sad because although you are having money, who will you share your problems with or who will you even share your happiness with? If you are there and all the time you always feel neglected, it won't make you happy in life (Pink Sarah).

The narrations above imply that the adolescents' understanding of what mainly constitutes a happy and meaningful life for adolescents is a *fulfilled psychological/emotional and social needs*. Although they recognise that fulfilling basic material needs is also a necessity for life, they do not recognise wealth as the ultimate element needed for adolescents' mental health promotion. While they may not have a deeper understanding of the concept of social capital, their narration acknowledges that psychosocial social capital is a crucial requirement for both poor and rich adolescents. Most importantly, they acknowledge that social capital can protect poor adolescents' mental health and well-being and enable them to achieve happiness, joy and prevent loneliness despite their poor circumstances.

The various dimensions of psychosocial social capital proposed by the adolescents based on their narratives as potential protective health assets that can help adolescents overcome difficult life situations and achieve positive health-related outcomes are elaborated as follows:

11.3.1.1 Parent-child Relationships

The participants reported that having access to basic economic needs alone is not what determines the health-related outcomes of adolescents, but also ensuring positive parent-child relationships from which adequate psychological needs and social support can be offered to adolescents is what will ensure that adolescents achieve positive

health-related outcomes. This is because, a positive parent-child relationship was portrayed to help, especially, adolescents from low socioeconomic backgrounds to feel a sense of love from the family which empowers them not to dwell on their difficult life situations. This consequently helps them build resilience and prevent health-related problems associated with poverty such as experiences of negative emotions. More specifically, they claim that adolescents with low socioeconomic status can still achieve happiness in the presence of positive parent-child relationships:

> *The poor can still be happy and that one has to do with the parent-child relationship; how is it? Are they able to interact well with the parents? You see, if parents are able to provide them with the basic things but cannot provide them with the psychological needs, definitely there will be a problem there* (Blue Peter).

> *When the poor people are in their homes, the parents have good relationships between them and their children. Because of that, the child will not think that as for them their parents don't love them. When the parents are fighting hard to cater for the children, the children will also work hard to help the family and they will be happy.* So, *even though poor adolescents don't have everything but because of the love and relationship they have with their family members, they are always happy* (Blue Ben).

A positive parent-child relationship characterised by positive exchanges and fun between adolescents and their parents was reported to help adolescents from low socioeconomic backgrounds to experience love and positive emotions such as feelings of joy and happiness irrespective of their poor circumstances as narrated by Ken, a less privileged adolescent:

> *For me, I need nothing, even if I am having billions that will not make me happy if my parents are not very happy with me. Like when we are in the house and we have some fun, every day we just play like children even though they are not my coequal, when I have some interactions with them, it makes me happy, it gives me joy because that tells me that my parents like me* (Pink Ken).

Another aspect of parent-child relationship reported by the participants was parent-child communication. Parent/family-child communication is used as an indicator of family social capital by some scholars as it represents the quality of a parent-child relationship (McPherson et al., 2013) and as clearly mentioned by some of the participants, positive parent-child communication is necessary to help especially, adolescents from low socioeconomic households to achieve a positive affect (emotions) necessary for high positive mental health:

> *Even though you are poor, if your communication with your parents or relatives is very good, you will be happy* (Blue GP).

The narratives above show that high socioeconomic status alone does not matter for adolescents' mental well-being and as such health promotion of adolescents, but family social capital also does matter. Also, positive parent-child communication is very crucial for empowering adolescents to possibly access various forms of familial social capital, hence, boosting their happiness irrespective of their poor circumstances.

11.3.1.2 Family Sense of Belonging

According to the participants, the positive mental well-being of adolescents goes beyond their material affluence to include family sense of belonging. Thus, both the less and high affluent adolescents can experience positive health-related outcomes depending on their satisfaction with the family they belong to. From the participants,

adolescents from high SES families can only attain positive affects if they combine their available resources/ basic needs and psychological needs such as a sense of belonging attained from their families. Thus, the presence of family sense of belonging can enable high affluent adolescents to attain higher happiness while a lack of family sense of belonging will cause adolescents to suffer unhappiness despite their high SES. This is because, per the narratives, family sense of belonging offers a positive state of mind, positive affect, and harmony at home which are essentials for promoting positive mental health:

> *In the home, it doesn't matter whether you live in a nice house or not, no! that one cannot make you happy. It depends on how the family is living and how satisfied you are with the family that will determine whether you are happy or not. Now, if there is peace in the family and there are no problems, then there will be harmony in the family, you will enjoy it, you will not have any problems. Your parents can be very rich, having cars and many things but if there is no harmony in the family, oh my friend, you will still be suffering. The family should be able to provide the psychological needs, the emotional needs and if the basic needs are provided, you combine them and with these, they can live well and will be very happy* (Blue Peter).

Moreover, the participants revealed that despite the poor circumstances, low affluent adolescents can still attain positive health-related outcomes but only in the presence of family sense of belonging. Blue Virtue (a privileged adolescent) elaborated this claim by explaining that *luxury and money* are not requirements for mental well-being-happiness, so adolescents from a low socioeconomic background stand a chance of attaining happiness in the presence of family sense of belonging:

> *You can have all the luxury and all the money and all riches, but still, you will not be happy. In the situation where I am not rich but there is peace, my parents give me the love, care, and affection, I think I will be a happy person unlike a situation where there is no peace and the parents are always fighting and quarrelling, they don't even have time for me. It will make me question if my parents even love me at all?* (Blue Virtue).

Again, family sense of belonging was reported to safeguard adolescents from both low and high socioeconomic backgrounds from negative emotions related to mental health including feelings of isolation, loneliness, and sadness. As narrated below by Pink Mavis (less privileged), the presence of family sense of belonging can influence the level of happiness of adolescents from both low and high SES families, and especially help adolescents from low socioeconomic households to attain high happiness:

> *To me, what will make me happy, it doesn't matter the amount of money that I have, but it depends on the love and affection, how my families are close to me, how they are always eager to help me, to hear my problems, that will make me feel like am very happy. Because even in most cases that the parents are very rich, the parents are always travelling; today I am going to the UK, am going to Germany, am going to a different country, so they don't have time for their children. If you investigate carefully, you will notice that the adolescents from such rich homes always feel isolated, the child is always not happy. Although the child has all that she needs, the child is not always happy because the child lacks love and affection from the family members. So, for me, for you to be happy, the only thing you need is love and affection* (Pink Mavis).

The narratives above indicate that family sense of belonging can increase the mental well-being (happiness) of adolescents from both low and high SES households. Thus, family sense of belonging ensures to some level equality in mental wellbeing irrespective of adolescents' SES.

11.3.1.3 Family Social Support

From the narratives, family social support can protect against the effect of SES or poverty on the health-related outcomes of adolescents. Pink Vera and Pink Starboy (both less privileged) explained that family social support especially in the forms of information (e.g., advice) and emotional (e.g., motivation) support enables less affluent adolescents to make better decisions necessary for their well-being and cope with their poor living circumstances. Family social support, therefore, helps less affluent adolescents build resilience against health-related consequences such as negative emotions associated with poverty:

> *Hmmm, the poor are happy because when you wake up, your family members are always there for you. Anyone who is close to you, the person is always there for you, so in terms of advice, the person will help you to go on the right path, not the wrong path.* (Pink Vera).

> *For adolescents who are in poor homes, you know the mother and father are not working any seriously, so for instance, when you wake up early in the morning you will see your mother and father and they will give you advice and others. But in the rich homes, you must wake up early because your mother and father are working else you will never see your parents faces. Me like this, if I request something from my parents, like money and they don't have it, but*

> *they motivate me, and explain that they don't have so I should try and get it next time, it helps me to be happy* (Pink Steven).

Some of the participants acknowledged the role of the extended family as offering a *safety net* for adolescents from low socioeconomic backgrounds. Although adolescents may belong to parents with low socioeconomic status, extended family members can provide tangible social support such as financial assistance to help poor adolescents overcome their financial challenges. As such, although adolescents may belong to low socioeconomic households, if they have social support from the extended family members to meet their needs, they can achieve high positive affects despite their poor status:

> *The poor adolescents are very happy because they always get more help in their life, with their education or school. Their relatives contribute to support them* (Pink Love).

> *That is why I said earlier that even if I have billions, that will not make me happy when my relatives are not happy with me. If they are happy with me, then I don't think something like financial problems will be there. Because whenever I am in need of anything they will provide, they will do some small, small contributions to support, so I may still get what I want so that will make me happy even though it won't be sufficient. The extended family will support you even though they are not rich. When it comes to financials, they will say, this is our child, so we have to cater for him. Even though the parents are not rich, a family member can volunteer to help and provide for the child. I don't mean that generally the family is rich. Even if in the family everybody is poor but I don't think God will even let the whole family be poor, probably one*

person will be rich and he/she can give a helping hand and this will make the child very happy (Pink Ken).

The nuclear family members were also mentioned to offer emotional support in terms of encouragement, motivation, and inspiration which help supposedly poor adolescents to build resilience and wholeheartedly embrace their difficult living situations. This possibly enables them to overcome some negative effects of poverty and attain happiness as narrated by Pink Mavis, a less privileged adolescent:

> *Like I earlier on said, if you have love, if your parents have time for you, then that makes everything in life. Let me say if you want to even move further in life, then u have to have everyone to really support you. That means you have to have the love from your mother, your father, brothers or sibling, so everyone is backing you and encouraging you, that is why the poor adolescents are always happy. Although they will face petty challenges like maybe they cannot afford three square meals per day, but as long as their parents are there to encourage them, saying have you seen what we are facing, don't worry, it will soon be over, give them words of inspiration and motivation, then they will always feel happy. They will feel like, although I don't have this, my parents don't have that, yet I feel like they have given me everything in the whole world and that's what I think makes them happy* (Pink Mavis).

The above accounts affirm the important role of the Ghanaian extended family in providing both monetary and non-monetary safety nets for poor children and adolescents in Ghana.

11.3.1.4 Family Autonomy and Control

Some of the participants reported that family autonomy and control influence the level of happiness of adolescents from both low and high socioeconomic backgrounds. They narrated that, despite that an adolescent may belong to a high socioeconomic status family, if the adolescent lacks autonomy and control to socialise with friends of their choice, they will still be unhappy compared to when they have the freedom to socialise with friends of their choice. Similarly, an adolescent from a poor socioeconomic background can attain happiness if they have the autonomy and control to socialise with friends of their choice:

> *Hmmm, the reason why the rich adolescents are not happy is just about not been able to socialise. In the rich family, if the adolescents want to make friends and choose their friends, the parents will be saying that their choice of friends are not good, so they don't allow them. The parents will say that you are from the upper-class level, how can you make friends with someone from a lower-class level, and this makes them unhappy. However, for the poor parents, they will allow their children to make friends from all levels, whether low, middle, or high which makes the poor adolescents happier* (Pink Mark).

It was again revealed that family autonomy and control given to adolescents to participate in decisions making and engage in physical activities were significant in determining the happiness of adolescents from both low and high affluent families. Thus, adolescents from high affluent families who lack autonomy and control to participate in decisions making and engage in physical activities will be unhappy despite their high socioeconomic status. For adolescents from a low socioeconomic background on the other hand, if they have high family autonomy and control to

participate in decisions making and engage in physical activities, they will be happy despite their poor situations as narrated by two less privileged adolescents:

> *Some adolescents from the poor family will still be happy due to the freedom they have. I'm poor but I live my life freely! I will take myself as an example, I can go out and play soccer till anytime I want, come back and sleep in the house. However, as for the rich people, they have some special time set for their children which they have to come back home, even if they come a minute past that time, they will be in trouble and so they won't be happy (Pink Bismark).*
>
> *The poor are happy because the relationship between them and their parents is good. Whatever they want to do, they will tell their parents and they will discuss it and the parents allow them to do it* (Pink James).

According to some participants, although adolescents may be from highly affluent families, if they lack autonomy and control to socialise, they will be unhappy, feel lonely, have poor relationships/interaction with their parents as well as lack the freedom of movement needed for socialisation. Consequently, despite their affluent background, such adolescents experience poor health-related outcomes due to the restrictions on their health behaviours as narrated by Blue John (high privileged adolescent):

> *It seems like we always have it in mind that if you are rich, you ought to be happy but there are some rich adolescents, the interaction with their parents is not always there so they are not happy. If you are the only son or daughter of your parents, they may even lock you inside the house, and they always leave you alone in the house because they don't want you to move around. You can't*

move out and bring your friends to the house to play together, they will not even like you to bring people to the house. If you bring anybody like a stranger to the house, they will say, yes! you bring people here, bad people, they will come and do bad things, and steal things in the house. This will make you feel lonely, you cannot even feel happy (Blue John).

The accounts above signify that the conceptual and theoretical notion that high affluence always leads to high happiness is not always true as summed up by Blue John. In situations where autonomy and control are missing on the part of a rich adolescent, the positive contribution of SES to their happiness is likely to be annulled.

11.3.1.5 Peer Relationship

It was narrated that friendship with peers was a crucial factor in determining the mental well-being of adolescents irrespective of their socioeconomic background. Quantitative findings from Hong Kong showed that peer relationship characterised by having enough friends, and friends who are caring and offer support to peers enable children attain high life satisfaction and subjective well-being (Kühner et al., 2021). It is thus not surprising that the adolescents report implied that peer relationships were reported to create a positive sense of feelings for adolescents from low socioeconomic households. Some participants who seem to believe that adolescents from low socioeconomic households have more friends than adolescents from high socioeconomic households claimed that the reason why some poor adolescents are often healthier than rich adolescents is the difference in their relationships with their peers:

I'm happy the way I am (less privileged) because I get friends. We go and struggle outside for money, come back, eat together and sleep; there is nothing

wrong with that. If you notice, adolescents who are poor don't often fall sick because they socialise but those who are rich often falls sick (Pink Jeff).

*Some adolescents are not rich, but they are happy. It's because of the way they live, they have friends, and they are happy about it (*Pink Susan*).*

The narratives above support the benefits that positive peer relationships and friendships can offer to adolescents, even to the extent of helping them overcome socioeconomic effects on their mental well-being-happiness, an indicator of mental health.

11.3.1.6 Peer Social Support

Peer social support was revealed to shield adolescents from engaging in health-related risk behaviours by offering them moral and emotional support:

Our friends also advise us to desist from bad practices. My friend always calls me and asks me why am behaving in certain bad ways. Even though sometimes I don't consider her advice, she always reminds me to stop behaving badly (Pink Vera).

Also, in situations where the family is not offering the adolescent the social support needed, friends are the alternative sources of social support for adolescents which consequently can help them to adopt health-promoting behaviours:

Even though the family is not giving adolescents the moral and emotional support we need, our friends are providing those support. For instance, if I go to my friend when am sad or when something happens to me, he advises me in a positive way and he encourages me to learn and further my education to become someone important in future (Blue Eva).

Again, per the narratives, peers can form social networks that offer social support in the forms of emotional (inspiration and motivation) and tangible support (economic support) to especially adolescents from low socioeconomic backgrounds to build resilience and cope with their challenges, consequently helping them achieve positive health-related outcomes:

> *Some of the poor adolescents are always happy because for instance, if I have a situation where my parents are not taking care of me and I meet my friends who are also in the same situation, I feel that I am not alone, and other people are suffering just like me. Knowing that they are also living, you will also be proud that oh I'm not the only person who is facing this particular problem. The problem is general so you have to manage it like that and anything that comes your way, you should also face it and be happy* (Blue Obri).

> *If you are poor and don't even have food to eat, a rich friend can help you in terms of need, so, you will be happy* (Pink Hagar).

As explained by the participants, peer social support can come in handy, especially in situations where adolescents are lacking support from their families. Particularly, for poor adolescents, their peers offer crucial sources of social capital for them to boost their mental health and adopt healthy behaviours.

11.3.1.7 Community Sense of Belonging

It was reported that a community sense of belonging influences the health-related outcomes of adolescents from especially low socioeconomic households. Community sense of belonging has been reported to enhance the subjective well-being of children in Hong Kong (Kühner et al., 2021). As reported by the Ghanaian adolescents, despite

adolescents' low socioeconomic background, adolescents can attain happiness if they feel loved, respected and accepted by their community members:

> *To my own understanding, it's not only success and excellence that make a person happy. But sometimes the way and manner people talk to you or behave toward you, respond to you in such a way that you will forget about everything that is bothering you. If many people in the society respect the adolescent and the adolescent relate well with people in the community, I think the adolescents would be happy with the way majority of people in the society like them* (Blue Eric).

A community sense of belonging characterised by respect and love for adolescents will enable adolescents to find happiness despite their socioeconomic background.

11.3.1.8 Community Autonomy Support

Community autonomy support was portrayed by the participants to enable especially poor adolescents to find meaning in life as they have the freedom to engage with community members and participate in, for example, community recreational activities. This also helps them to be physically active, promoting positive health behaviour. Studies also show the positive relationship between community autonomy support and children's subjective well-being (Kühner et al., 2021). Thus, community autonomy support characterised by *choice* offered to the adolescents, self-motivation to engage in community activities that enables them to find their lives meaningful:

> *For the Upper West region, though some of us are suffering (poor), we also enjoy a lot of freedom to play football and engage in recreational activities because the community leaders just created a place like a park [playground]*

> *where community members exercise themselves. They enjoy exercising together which also bring something meaningful to their lives* (Pink Ken).

The above account implies that community autonomy support can influence the health behaviours of adolescents from poor backgrounds and positively influence their experiences of finding meaning in life.

11.3.1.9 Community Social Support

Community social support was reported to be particularly beneficial to adolescents from low socioeconomic backgrounds as it shields them from poor health-related outcomes such as unhappiness:

> *In some communities, if you are poor, someone can provide you with support so you will be happy* (Pink James).

Community social support is portrayed to provide a protective function by annulling the effects of individuals' poor circumstances on their mental well-being.

CHAPTER TWELVE

DISCUSSIONS, CONCLUSIONS, THEORETICAL, AND POLICY IMPLICATIONS

12.1 Introduction

In this chapter, discussions of the various results presented in Chapter Six to Chapter Eleven are made. Also, conclusions are drawn from all the findings discussions derived from the analysis presented in Chapter Six to Chapter Eleven. Thus, a conclusion on whether evidence was found in the Ghanaian context to support the study's argument for a need for asset-based approaches (*health asset)* and *social approaches* to addressing socioeconomic inequalities in the health and health behaviours of school-aged adolescents in LMICs. Answers to the key research questions presented in both the quantitative and qualitative studies are offered. Following the conclusions drawn, the strengths and limitations of the study are elaborated while some recommendations to overcome the limitations in future studies are spelled out. Next, the theoretical implications as well as the policy and practice implications of the findings identified are presented in this chapter.

12.2 Discussions (Chapter Six – Chapter Eleven)

12.2.1 Sociodemographic Factors, Health, and Health Behaviours: Bivariate Relationships

As stipulated by the bioecological systems theory, the findings have generally, revealed significant relationships between Ghanaian school-aged adolescents' sociodemographic characteristics (SDCs) and their developmental outcomes (health and health behaviours) (Bronfenbrenner & Morris, 2006). The social capital framework employed in this study also acknowledged the role that SDCs can play in

influencing the relationship between socioeconomic status and adolescents' health and health behaviours, hence, proposed SDCs as control variables in the framework (Morgan, 2010). Generally, the correlation analysis showed significant associations between SDCs and the adolescents' health status, mental health, health-promoting behaviour, and health risk behaviours. The cross-tabulation Chi-square analysis also broadly showed significant variations in the adolescents' health and health behaviour outcomes by SDCs. This section first discusses the relationships between sociodemographic factors and school-aged adolescents' health outcomes including health status and mental health. Secondly, the relationships between sociodemographic factors and school-aged adolescents' health-promoting and health risk behaviour outcomes are discussed.

- **Health Outcomes**

Corroborating findings from several European countries and Canada, the present findings revealed gender differences in all the health outcomes of the adolescents; including self-rated health (SRH) and mental health (satisfaction with self-confidence (SSC), multiple health/psychosomatic symptoms (MHPS)) and physical activity (PA) (Currie et al., 2012; Inchley et a., 2016; Freeman et al., 2016). Again, gender was associated with the adolescents' SRH, SSC, MHPS and PA in a correlation analysis (Inchley et al., 2016; Freeman et al., 2016). Overall, males tended to report better health outcomes (high SRH, high SSC, high PA, and low MHPS) than the females which are asserted by the existing evidence (Currie et al., 2012; Freeman et al., 2016; Campbell et al., 2021). For instance, it was revealed in a cross-country study that across all age groups, girls often reported poor health (Inchley et al. 2016). Canadian male adolescents also reported higher self-confidence than their female counterparts

(Freeman et al., 2016). Again, similar findings were found in many European countries where girls were more likely to report multiple health complaints (Inchley et al., 2016) as well as in Canada where female adolescents reported higher experiences of continuing sadness and depression compared to males (freeman et al., 2016). These findings can be related to existing findings that claim that female adolescents have poor mental health compared to males (Currie et al., 2012; Freeman et al., 2016; Campbell et al., 2021). While the poor health outcomes including the mental health of female adolescents in this study could be related to genetic and biological factors that for example result in mood swings due to hormonal changes during the menstrual cycle (WHO, 2002), for this specific study context, it is more likely that the poor health outcomes of female adolescents could result from gender roles (WHO, 2002) in the Upper West region which discriminates against females in the region. In simple terms, there exist a male supremacy culture in the region where male children are prioritised over female children (GSS, 2013b). This results in a lack of autonomy and control for female adolescents compared to male adolescents in the region (Addae, 2020b). The feeling that one lacks autonomy and control over his/her life has been related to poor mental health (WHO, 2002) and this can consequently affect overall health status. Moreover, the male supremacy culture in the region means male adolescents are possibly able to accrue more social capital from the family to enhance their health outcomes compared to the females. These findings hence hint at the potential influence of psychosocial factors on the health outcomes of Ghanaian adolescents.

Again, asserted by existing studies, there were significant variations in SRH and MHPS by age (Freeman et al., 2016; Inchley et al., 2016). However, contrary to findings that older adolescents were more likely to report poor health than younger adolescents in Europe (Inchley et al., 2016), findings from this study infer that there is

a positive association between age and SRH in Ghanaian adolescents. Moreover, contrary to existing findings, this study found a positive and negative association between age and SRH and MHPS respectively. These contradictory findings imply that younger Ghanaian adolescents reported poorer health status and higher symptoms of poor mental health than older adolescents. These unexpected findings can be related to the reason that majority of the older adolescents who were in senior high schools in this study were residing in school dormitories away from their families during the survey. The school could have hence provided some protections for the older adolescents against family and community stressors compared to the younger adolescents who were mostly junior high school students who were residing with their families at home. The home environment could have exposed the young adolescents to various stressors including extreme domestic chores, family conflicts, and even family violence (Addae & Tang, 2021), all of which can cause poor health status and poor mental health.

Regarding educational factors, there were significant variations in both mental health indicators (MHPS and SSC) by educational/class level where more junior high school students reported higher MHPS and lower SSC than senior high students. The reasons for these findings could be related to the possible reasons why younger adolescents who were mostly in junior high school reported lower SRH and higher MHPS than the older adolescents who were mostly in senior high schools as explained above. From the correlation findings, MHPS was also found to increase with an increase in class level while SSC decreased with an increase in class level. The effect of class level on these outcomes of this study's sample can likely be related to school-related stress arising from increasing academic work pressures with an increase in class level. School-related stress has been associated with frequent health problems (e.g.,

headache and dizziness) and psychological complaints (e.g., feeling sad, and nervous) (Ottova-Jordan et al., 2002; Torsheim, 2003). For this sample, the association between class level and SSC can also be linked to the association between class level and MHPS of adolescents. Thus, the correlation analysis showed a negative association between MHPS and SSC, implying that if the class level increases with MHPS, then SSC must decrease with an increase in class level. This shows consistency in the findings. No studies were found to either support or contradict these findings regarding the educational level and class level which means that the justifications given for these findings can be contended to likely be specific to the Ghanaian adolescent study sample.

Additionally, the adolescents' MHPS varied significantly with their religious affiliation. The correlation analysis also showed that Christians reported lower MHPS compared to Muslims/Traditionalists but reported higher SSC. These variations in health and health behaviour outcomes can be associated with differences in the amount of 'health asset'-social capital stock possessed by different social groups that can create inequality in how resources are distributed among various groups including religious groups. Also, Traditionalists in the study region endorse cultural practices and traditions such as child marriage and male supremacy which are noted to be harmful to adolescents' health (GSS, 2013b; UNICEF, 2015). Adolescents from households where the family especially parents are Traditionalists are, therefore, likely to be exposed to traditional practices that can consequently harm their health and lead to high experiences of symptoms of poor mental health-MHPS. As MHPS is associated to the participants' SSC, it is hence not surprising that Christians also reported higher SSC than the Muslims and Traditionalists.

There were again significant variations in SRH and SSC by family structure.

Significant associations showed that adolescents living with both biological parents were more likely to report higher SRH and higher SSC than their counterparts living in single, stepparents, and cohabiting households. Existing reports indicate that those living with both parents have high well-being outcomes than with other family structure types (e.g., single parent, relatives) (Langton & Berger, 2011; Currie et al., 2012). Family structure is considered a type of family social capital that is crucial for influencing adolescents' developmental outcomes (McPherson et al., 2013). These findings can, therefore, be linked to the capacity of those living with both biological parents to accumulate more psychosocial resources from both biological parents to promote positive health outcomes (McPherson et al., 2013). Previous findings also show that children living with both biological parents are less likely to suffer from cognitive and emotional problems compared to their peers living with one biological parent (Amato, 2005). These findings underscore the importance of familial social capital to adolescents' health outcomes.

Additionally, there were significant variations in SRH, MHPS, and MHRB by geographical location such that more of the adolescents from the poorest district (Wa West) reported lower SRH and SSC than their counterparts from relatively richer district (Wa East). Geographical location was associated with the psychological well-being of the study participants in another study (Addae, 2021b). Children from low-affluence backgrounds are often reported to lack appropriate health resources and are more prone to psychosocial stress and psychological symptoms, and low self-self-esteem which can affect these health outcomes (Elgar et al., 2015; Bannink et al., 2016; Inchley et al., 2016; Vukojevic et al., 2017). These variations can also be linked to the fact that some communities or jurisdictions may possess more social capital than others (Carpiano, 2006). Community social capital that is accessible to adolescents living in

those communities or jurisdictions can be utilised to help adolescents attain positive health outcomes.

Finally, bullying was found to establish variations in SRH and MHPS among adolescents, with victims of bullying also reporting lower SRH, lower SSC, and higher experiences of MHPS. Experiences of bullying among children have been associated with mental health outcomes including psychosomatic symptoms (Klomek, 2007; Klomek et al., 2010) which could consequently result in poor health.

- **Health Behaviours**

Gender was again responsible for differences in the adolescents' experiences of health-promoting activities-physical activity (PA) as found in other studies (Currie et al., 2012; Inchley et a., 2016; Freeman et al., 2016; Sember et al., 2020). Also, mirroring other studies, gender was associated with the adolescents' PA and multiple health risk behaviours (MHRB). Thus, males engaged more in health-promoting behaviour (physical activity) than females which affirms other findings (Freeman et al., 2016; Inchley et al., 2016; Sember et al., 2020). Validating existing findings, although not significant, the male adolescents reported higher experiences of MHRB than the females (Inchley et al., 2016). High prevalence of smoking, weekly drinking of alcohol, cannabis use, sexual intercourse, and being bullied have been recorded among more males than females in high-income countries (Freeman et al., 2016; Inchley et al., 2016).

Additionally, the findings revealed variations in MHRB by experiences of bullying. More of those who reported being bullied reported higher PA and higher experiences of MHRB. A significant association between PA and bullying victimisation has been reported among children and adolescents (Garcia-Hermoso et

al., 2020). Bullying is reported as an indicator of social exclusion, which may create social inequalities in physical inactivity (Garcia et al., 2021). Findings indicate that bullying occurs during physical education classes in schools (Hurley, 2010) which could have led to this seemingly positive association between the participants' bullying and PA. Also, evidence suggests that bullying is related to alcohol intake and substance use among victims of bullying (Luk et al., 2010).

Geographical location was also responsible for variations in the adolescents' experiences of MHRB. Studies have shown association between neighbourhood health risk behaviour, smoking (Algren et al., 2015).

Lastly, the adolescents' experiences of MHRB varied significantly with their religious affiliation with more Traditionalists reporting higher experiences of MHRB than their Christian and Muslim peers. This infers that adolescent from homes where families are Traditionalists are more likely to engage in more than one of the following risky behaviours: smoking, sexual intercourse, cannabis use, alcohol drinking, and bullying. The reason for such findings could be related to the role of religious groups' teachings in guiding children and adolescents to live good/moral lives. For instance, religiosity was reported as an element of community social capital that offer a protective role in the context of health risk behaviours as children and adolescents reported better outcomes when they often attended religious services (McPherson et al., 2013).

12.2.2 Socioeconomic Status, Social Capital, Health, and Health Behaviours: Bivariate Relationships

This section presents an overview of findings on the variations in Ghanaian adolescents' health and health behaviour outcomes by SES and social capital as reported in Chapter Six. It also presents an overview of the associations that exist

among SES, social capital, and adolescents' health and health behaviours. In Chapter Seven and Chapter Eight of this thesis, more complex analytical tools are employed to confirm the findings in this chapter. Thus, while controlling for sociodemographic characteristics, the relationship between SES and social capital and health and health behaviours are further examined to determine the predictive power of SES and social capital on Ghanaian adolescents' health and health behaviour outcomes in the following Chapters. The findings illustrate that, generally, the participants' SES and social capital created diverse variations in their health and health behaviours in the cross-tabulation Chi-square analysis as well as were found to be associated (weak to moderate) with their health and health behaviours in the correlation analysis (Morgan, 2010; Morgan & Haglund, 2009; Murayama et al., 2012; Uphoff et al., 2013; Inchley et al., 2016; Vukojevic et al., 2017; Novak, 2018). Also, broadly, significant associations were found between the health and health behaviour outcomes (WHO, 2008), as well as between SES and social capital (Addae, 2020a: b; Kühner et al., 2021). Among the social capital indicators too, some significant associations were found. These findings were supported by existing social capital theories and the health asset approach employed to conceptualise the relationships among the various key variables employed in this study. They are also supported by the bioecological system theory's argument on the link between resource characteristics such as SES and individuals' developmental outcomes (Bronfenbrenner & Morris, 2006). Subsequently, most of these findings affirm the initial assumptions made that SES, social capital, and health and health behaviours are all related hence supporting the need for mediation and moderation analyses to be conducted in this study.

- **Health Outcomes**

Firstly, the findings from the correlation analysis showed significant associations among the various health outcomes of the adolescents such that, adolescents with high self-rated health (SRH) reported higher satisfaction with self-confidence (SSC) and lower experiences of multiple health/psychosomatic symptoms (MHPS); while adolescents with higher SSC reported lower experiences of MHPS including headache; stomach ache; feeling low, irritable or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Most of these symptoms are indicators of mental health conditions such as depression, stress, and anxiety (Brosschot, 2002). These findings reflect the multidimensionality of health. Asserting to these findings, self-confidence has been found as another important driver of adolescent psychological well-being, mental health, and risky behaviours (Cosma et al., 2016; Freeman et al., 2016). High levels of self-confidence are linked to lower levels of health complaints and psychosomatic symptoms such as stress, anxiety, loneliness, and increased levels of psychological well-being (Cosma et al., 2016) which can consequently enhance self-rated health.

Secondly, SES caused variations in the adolescents' SRH and SSC. The adolescents' health outcomes (SRH and SSC) were associated with their SES, with adolescents from high SES households reporting higher SRH and SSC than their counterparts with low SES. The crucial role of SES in establishing inequalities and social gradient in adolescents' physical and mental health has been acknowledged in research from other countries (Reiss, 2013; Elgar et al., 2015; Vukojevic et al., 2017). No significant association between SES and MHPS was found which is contrary to findings from several high-income countries (Inchley et al., 2016). This difference could be related to the possibility of the effects of SES on MHPS being mediated by social capital as reported in Chapter Nine of this thesis.

Also, SES was associated with the employed social capital indicators: family sense of belonging (FSB), family autonomy support (FAS), family control (FC), perceived social support from family (PSS-Fa), community sense of belonging (CSB) and peer-based social network (PSN) as reported in other studies (Morgan et al., 2012; Addae, 2020a: b; Kühner et al., 2021). Thus, those with high SES reported higher FSB, FAS, PSS-Fa, CSB, and PSN but reported lower FC (Morgan et al., 2012; Addae, 2020a:b; Kühner et al., 2021) compared to adolescents from low SES backgrounds. Studies indicate that children from low SES households suffer low participation (Engels et al., 2011) which could possibly limit the levels of social capital that they can access through participation in their social contexts. Contrary to the study assumptions, no association was found between SES and adolescents' school social capital (SSB and SAS). These findings are, however, in line with findings from the Asian context where SES was not associated with Hong Kong school children's SSB and SAS (Kühner et al., 2021).

Furthermore, all the social capital indicators (FSB, FAS, FC, SSB, SAS, PSN, and CSB) created variations in the adolescents' SRH, and all the social capital indicators (FSB, FAS, FC, PSS-Fa, SSB, SAS, and CSB) excluding PSN, were responsible for variations in the adolescents' experiences of MHPS and SSC. Subsequently, all those with higher social capital (FSB, FAS, PSS-Fa, SSB, SAS, and CSB) were more likely to report higher SRH and higher SSC but were less likely to report higher experiences of MHPS.

The findings regarding the family context mirror claim that young people who are close to their parents report higher self-rated health (Pederson et al., 2004) as well as fewer physical and psychological problems (Moreno et al., 2009). Also, children and adolescents who have a positive relationship with their parent(s), and other family

members, are reported to have better health outcomes (McPherson et al., 2013). A review by McPherson et al. (2013) also revealed evidence suggesting the role of positive parent-adolescent relationships in the promotion of positive self-esteem/worth of adolescents; this can explain the role of familial social capital in enhancing self-confidence of adolescents in this study. Additionally, findings regarding the school contexts reflect evidence that the school environment has a potential benefit for adolescents' self-esteem (which can enhance self-confidence) and future health (Wit et al., 2011). Regarding the community context, evidence implies that feeling of connectedness among residents, neighbourhood quality, and social support networks are associated with better child health outcomes and quality of life (Morrow, 2000; Ross & Jang 2000; McCulloch & Joshi 2001; Curtis et al., 2004; McPherson et al., 2013). Moreover, community social capital has been associated with higher self-esteem/worth among adolescents (McPherson et al., 2013). These existing findings can explain why adolescents who reported high CSB in this study reported better health outcomes than their peers with low and medium CSB.

In addition, there were differences in adolescents' SRH by the size of their social network (PSN) (number of friends reported) and a positive correlation indicating that adolescents with a higher number of friends reported higher SSC than their counterparts with fewer friends. The findings imply that having many friends are important for adolescents' self-confidence building and positive health status. However, as to how many friends should be recommended or is best for adolescents to have is difficult to judge in this study. The cross-tabulation analysis, however, showed that more adolescents with low (0-3) and high (6) number of friends reported higher SRH than those with medium (4-5) number of friends. While no studies were found to compare these findings, these findings can be explained by evidence that

suggests that close friendship ties represent a critical development task in young people and affect their social adjustment (Poulin & Chan, 2010). Friendships can hence help adolescents to socially adjust and thereby boost their self-confidence. Adolescents with access to support networks including peers are reported to have higher self-esteem and self-worth (McPherson et al., 2013). Also, friendships can offer social support to adolescents; and the report highlights that, lower rates of peer support are linked to depression (Young et al., 2005) and a higher incidence of substance abuse (Samdal et al., 2000). This indicates the possibility for adolescents with more friends to possess more peer social support which can help them prevent poor mental health and substance abuse and consequently attain positive health status.

Furthermore, adolescents with higher FC reported lower SRH and lower SSC but reported higher experiences of MHPS when compared to their peers with lower FC. These findings imply the importance of a sense of having control over one's life to one's self-confidence development as well as attaining positive health status. Feelings of lack of autonomy and control have been associated with poor psychological/mental well-being (WHO, 2002; McPherson et al., 2013; Addae, 2020a; Kühner et al., 2021) and parental monitoring and control have been linked to poorer self-esteem/worth among adolescents (McPherson et al., 2013).

Overall, all the above findings imply that high levels of these social capital indicators result in high SRH and high SSC, while on the contrary, low levels will lead to high experiences of MHPS. These findings are hence supported by evidence that people with higher social capital levels tend to be more likely to present a positive self-perception of their health (Murayama et al., 2012; Uphoff et al., 2013; Novak, 2018).

- **Health Behaviours**

Firstly, Chi-square analysis implied that SES caused variations in the adolescents' physical activity (PA) but not their experiences of multiple health risk behaviours (MHRB); and the correlation analysis revealed associations between SES and PA but not MHRB. Adolescents from high SES households reported higher PA than their counterparts with low SES; implying that SES possibly creates inequalities in adolescents' engagement in health-promoting behaviours (Kipping et al., 2014; Inchley et al., 2016). The findings from this thesis are contrary to findings by Kipping et al. (2014) who found an association between SES and multiple risk behaviours but not for PA. Nevertheless, the findings are supported by studies reporting associations between SES and physical activity (Chen & Matthews, 2002; Hanson & Chen, 2007, Inchley et al., 2016; Puolaka et al., 2018) but not for multiple risk behaviours (Pickettt et al., 2006). This is in line with reports suggesting inconsistent findings or varying associations between SES and health behaviours depending on the objective or subjective socioeconomic indicator utililsed (Fismen et al., 2012; Turrell et al., 2013). These findings, thus, support the need for a specific country-context analysis of the associations between SES and health behaviours of school-aged adolescents.

Moreover, the employed social capital indicators (FSB, FAS, PSS-Fa, SSB, and CSB) created variations in the adolescents' PA while FSB, FAS, PSS-Fa, and SSB established variations in their experiences of MHRB. Social capital is again associated significantly with PA and MHRB in the correlation analysis. Thus, adolescents who reported higher (FSB, FAS, PSS-Fa, SSB, PSN, and CSB) reported higher PA than their counterparts with lower levels of these social capital indicators. In the family context, these findings could be explained by the fact that having a high sense of belonging, high social support, and high autonomy support in the family can offer the adolescents the freedom and opportunity to socially interact and engage in fun

activities with family members and peers. Similarly, a positive relationship between adolescents and their parents and extended family members has been associated with positive outcomes for physical activity (Schinke et al., 2010; Wang et al., 2011). Adolescents with high CSB may also feel safe in their communities and have more opportunities to engage with peers and adults in their communities as well as utilise community recreational venues or playgrounds to maintain physical activity. Likewise, a high SSB also means that adolescents have more opportunities in schools to engage with peers and participate in school activities including sports. These findings regarding CSB and SSB reflect the role of *community* social capital in the physical activity of adolescents as evidence suggests that adolescents with higher quantity/quality social support networks beyond the family context are more likely to be physically active (Hume et al., 2009; McPherson et al., 2013). Bwalya and Sukumar (2017) also found that social capital in family, community, and school have a significant influence on children's physical activity in Ireland. Adolescents with more friend also reported higher PA than those with fewer friends which can be related to opportunities to engage with friends in peer activities including sports.

Regarding experiences of multiple health risk behaviours (MHRB), adolescents with higher (FSB, FAS, PSS-Fa, and SSB) reported experiencing lower MHRB. Thus, they reported experiencing either none or one risk behaviour compared to their peers who reported more than one risk behaviours simultaneously. Although insignificant, adolescents reporting high FC also reported high experiences of MHRB. These findings propose the potential protective role of family and school social capital in adolescents' simultaneous experiences of more than one of the following risky behaviours: sexual intercourse, bullying, alcohol intake, smoking, and cannabis use. Findings from this study are supported by claims that social capital is associated with

the lowest prevalence of some health risk behaviours (Lindstrom, 2008; Ball et al., 2010; McPherson et al., 2013). Positive family relationships and social support networks have also been associated with fewer behavioural problems among adolescents (McPherson et al., 2013) Some of the proposed downsides of social capital for young people indicate that social networks among young people can lead to engagement in risk behaviours in situations where young people may form gangs in large social networks (Morgan, 2011), and peers have been found to significantly influence adolescents' risk-taking behaviours such as smoking and substance use (Cavalca et al., 2013; Osgood et al., 2013). However, no association was found between the size of social network (PSN) (number of friends) and experiences of risk behaviours among the study participants. This can be explained by findings illustrating that strong parent-child relationships can buffer the influence peers have on health risk behaviours (Bremner et al., 2011) as most of the participants reported a high level of familial social capital.

12.2.3 The Relationships Between Socioeconomic Status and School-Aged Adolescents' Health and Health Behaviours

Socioeconomic status (SES) has continuously been revealed as a 'perpetrator' of social and health injustices establishing generation poverty and health inequalities (WHO, 2008). It is quite unfortunate that parents' SES determines the developmental outcomes of children as they are indirectly affected by the parents' SES adolescents (Reis et al., 2019). This causes adolescents from low SES families to lack certain economic and social necessities for empowering them to make better health choices and seek better healthcare; they also experience high stress from diverse deprivation and societal discrimination and experience high health complaints than those with a high SES (Weyers et al., 2010; Senn et al., 2014). These can introduce adverse

consequences for their overall health status, mental health and health-promoting behaviours, and exposure to health risk behaviours. Findings on the effect of SES on health and health behaviours have been inconsistent but significant evidence suggests a significant relationship between SES and adolescents' self-rated health, mental health, health-promoting behaviour, and health risk behviours as found in the present study. As proposed by the bioecological theory, demand characteristics such as SES and resource characteristics such as gender, age, etc. were found to be critical determinants of adolescents' health and health behaviours.

Findings from the mediation models mirror findings from the Chi-square and correlations analysis presented in Chapter Six which support the study's hypotheses that high SES will lead to high SRH as well as lead to high SSC. The total effect of SES on the adolescents' self-rated health (SRH) and satisfaction with self-confidence (SSC) were significant even after controlling for adolescents' sociodemographic characteristics (SDCs). Similarly, the total effect of SES on multiple health/psychosomatic symptoms (MHPS) was insignificant. The findings are in line with existing studies that found a positive relationship between SES and children and adolescents' SRH (Richter et al., 2012; Inchley et al., 2016; Plenty & Mood, 2016; Vukojevic et al., 2017). Bannink et al. (2016) found among UK adolescents sample that adolescent who perceived their family as poorer than their friends (instead of about the same) were less likely to have greater self-esteem. This gives a plausible explanation for the significant positive effect of SES on this study's adolescents' SSC. The findings show that irrespective of accounting for the employed SDCs of adolescents, SES can significantly expose adolescents to health inequalities and place poor adolescents in disadvantaged circumstances including poor health status and poor mental health possibly through life stressors introduced by low SES in their social

contexts (Weyers et al., 2010; Senn et al., 2014).

The findings revealed, however, that, the effect of SES on adolescents' health outcomes can vary depending on whether social capital is present or absent. Thus, despite that SES's total effect on SRH was significant, the direct effect on SRH became insignificant when social capital was accounted for in the mediation model. Hence, after adjusting for the SDCs and social capital, SES was able to predict only the participants' satisfaction with self-confidence and not SRH and MHPS. SES has not been able to predict SRH and MHPS in the adolescents is contrary to findings that postulate significant positive and negative relationships between SES and SRH and MHPS respectively (Weyers et al., 2010; Senn et al., 2014; Reiss, 2013; Elgar et al., 2015; Inchley et al., 2016; Vukojevic et al., 2017). Nevertheless, it is noteworthy when interpreting these findings that the existing evidence on the significant effect of SES on health outcomes did not account for social capital in their studies. The reasons why SES could not predict SRH and MHPS could be attributed to possible mediation and or moderating effects of the employed psychosocial social capital occurring in the analytical models as confirmed in Chapter Nine of the thesis.

Regarding health behaviours, similar to the Chi-square and correlation analysis, the total effect of SES on PA was significant but not for MHRB after accounting for the SDCs. Thus, high SES predicted high PA as reported in other studies (Chen & Matthews, 2002; Hanson & Chen, 2007, Inchley et al., 2016; Puolaka et al., 2018) but could not predict experiences of MHRB as found by other studies (Pickettt et al., 2006). As explained in the previous section, findings on the relationship between SES and MHRB are inconsistent, and as such interpretations should be made considering the specific context and indicators of SES and MHRB employed in this study.

Despite that, the presence of psychosocial social capital resulted in variations in the effect sizes of SES' total and direct effects on PA and MHRB, SES's effects remained significant and directly predicted PA but not MHRB. Thus, adolescents from high affluence households were more likely to be physically active than their peers from low affluence households which is supported by previous findings from Europe (Inchley et al., 2016). SES was not related to adolescents' experiences of multiple risk behaviours including sexual intercourse, bullying, alcohol intake, smoking, and cannabis use. These findings imply that the effect of SES on diverse dimensions of adolescents' health behaviours is likely to remain unchanged even when social capital and SDCs are adjusted for. The changes in the effect sizes, however, portray some extent of possible partial mediation and or moderation effects of social capital on the relationship between SES and adolescents' PA and MHRB as found in Chapter Ten.

Also supporting findings presented in Chapter Six, in the mediation models, some SDCs significantly predicted health and health behaviour outcomes in the presence of SES and psychosocial social capital, implying the importance of these characteristics of the *person* in the context of establishing health inequalities among adolescents. Corroborating existing evidence, gender predicted SSC (Freeman et al., 2016) and MHPS (Freeman et al., 2016; Inchley et al., 2016), age cohort positively predicted SRH (Inchley et al., 2016), religion predicted MHPS and SSC, geographical location predicted SRH and SSC and being bullied predicted MHPS (Currie et al., 2012). Again, gender predicted both PA and MHRB with males more likely to engage in PA than females (Inchley et al., 2016; Freeman et al., 2016; Sember et al., 2020). Males and adolescents who were victims of bullying were more likely to experience more than one risky behaviour (MHRB) (Luk et al., 2010).

12.2.4 The Relationships Between Psychosocial Social Capital and School-Aged Adolescents' Health and Health Behaviours

The potential for social capital to offer protection to the health outcomes of young people has been widely proposed in especially high-income countries (Morgan 2010:2011; McPherson et al., 2013). While such evidence is limited in the LMIC context, this thesis attempts to offer evidence on the potential of social capital to protect the health status, mental health, health-promoting behaviours, and health risk behaviours of Ghanaian school-aged adolescents to offer lessons for other LMICs. It is expected that the findings from this study which have generally supported some of the study hypotheses and existing theories and literature will provide policy directions on how various dimensions of psychosocial social capital can be applied as complements or key components in strategies targeting specific dimensions of adolescents' developmental outcomes especially health and health behaviours.

- **Health outcomes**

The findings from the mediation models mirror findings presented in Chapter Six which imply that adolescents who reported high psychosocial social capital (FSB, FAS, FC, PSS-Fa, SSB, and CSB) stood greater chances of attaining high SRH even after adjusting for the adolescents' SES and SDCs. These findings are asserted by existing studies which reported that young people with a low sense of family belonging and low involvement in their neighbourhoods were almost twice as likely to report poor health (McPherson et al., 2013). Also, family, school, and community social capital characterised by a sense of belonging, social support, and autonomy support has been associated with higher well-being of school children and adolescents (Morgan et al., 2012; Addae, 2020a; Kühner et al., 2021). Being close to parents has

also been associated with better self-rated health for young people (Pederson et al., 2004).

Additionally, adolescents with high FSB, high FAS, high PSS-Fa, and high SSB had greater chances to be satisfied with their self-confidence (SSC). Positive parent-adolescent relationships, social support, and autonomy support have been linked with self-worth and self-esteem (McPherson et al., 2013) which can enhance adolescents' self-confidence. Feelings of care, respect, praise, and acceptance from parents as well as feelings of autonomy to participate in decisions stimulate feelings of competence, self-worth, and self-esteem and these can consequently stimulate feelings of confidence in adolescents. Also, high SSB boosting adolescents (students) satisfaction with their self-confidence may be related to the quality of peers or friends that adolescents have in their schools which offer social support to empower them to deal with social adjustments during adolescence (Poulin & Chan, 2010). Being able to socially adjust can enhance self-confidence as adolescents feel empowered to socially engage with peers and make friends of their choice. Also, although not significant, schools that support high autonomy for students were positively associated with the participants' SSC. This gives plausible reasons why SSB could lead to high self-confidence as there was a high correlation between the participants' SAS and SSB.

Furthermore, adolescents with higher levels of some indicators of psychosocial social capital (FSB, FC, PSS-Fa, SSB, PSN, and CSB) were less likely to experience a high number of symptoms of poor mental health (MHPS), except those with high levels of FC who were more likely to experience high MHPS including headache; stomach ache; feeling low, irritable or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy which indicate possible signs of stress, depression, and anxiety (Brosschot, 2002; Currie et al., 2012). Experiencing multiple health

complaints has been noted as a vital indicator of subjective well-being because it reveals individual burdens and personal experiences linked to negative life experiences in the social context of family, school, and peers (Moreno et al., 2009; Ottova-Jordan, 2015). Adolescents who possess family social capital characterised by positive relationships including a sense of belonging and social support between adolescents and their parents and extended family members are noted to report fewer psychological problems and better mental health outcomes (Moreno et al., 2009; McPherson et al., 2013). This is likely because they can access socioemotional support such as problem sharing and solving, love, care, and acceptance from their families.

Again, higher levels of parental monitoring and family control have been found to have a potential negative impact on adolescents' psychological well-being including happiness (Morgan et al., 2012; Addae 2020a, Kühner, et al., 2021). This can be related to the loss of autonomy and participation in decisions concerning their well-being when FC is high. Similarly, adolescents who possess 'wider and quality networks beyond the family, quality neighbourhoods, and community and school social capital charaterised by social support networks from peers and adults are more likely to have better mental health outcomes (McPherson et al., 2013). In the absence of family, community members, as well as peers and teachers in schools, can offer adolescents socioemotional support, and even when the family is present, adolescents can still accrue extra socioemotional support from the community and peers and teachers to consequently boost their mental health. For instance, the school has been recognised as a protective factor against multiple health complaints (Karademas et al., 2008).

Unexpectedly, contrary to the correlation analysis which showed that adolescents with larger size of peer-based social networks (more friends) have higher self-confidence, the regression analysis revealed that adolescents with more friends

were more likely to report higher MHPS. While no study was found to compare this finding, the possible explanation for this finding is that a larger number of friends can create stress for adolescents who at the adolescence stage are prone to peer comparison, meeting the demands of friends to fit in with their friends, as well as dealing with possible conflicts arising from the many friends. Indeed, a recent study found that there is a curvilinear link between group membership and mental health where moderate membership was best, whereas too much or too little can pose adverse outcomes (Gallagher et al., 2018). This implies the possibility that a certain threshold or number of friends may be more beneficial for adolescents' positive mental health than having too many friends as reported in this study where the majority reported having four to six friends. Further analysis may be needed to detangle the relationship between the size of adolescents' peer-based social network and their developmental outcomes in future studies.

- **Health Behaviours**

Supporting the study hypotheses, according to the findings, adolescents with higher levels of family, school, and community psychosocial social capital (FSB, PSS-Fa, SSB, and CSB) were more likely to report being physically active than their peers with low levels of these indicators of social capital. A positive relationship between adolescents and their parents and extended family members has been associated with positive outcomes for physical activity (Schinke et al., 2010; Wang et al., 2011) which give a plausible explanation for these findings. Also, family, community, and school social capital have been related to children and adolescents' physical activity (McPherson et al., 2013; Bwalya & Sukumar, 2017). This could be linked to the freedom and support offered to adolescents to engage in recreational activities at home,

play with siblings and parents, and use community playgrounds as signified in the indicators of this study's family and community social capital. Also, in a school where adolescents perceive high SSB, adolescents are likely to receive support from peers and teachers to engage in school activities including sports and physical education classes to promote participation in physical activities.

Surprisingly, contrary to the hypotheses, FC and SAS showed reverse effects on adolescents' PA, whereby high FC led to high physical activity among adolescents and high SAS led to low physical activity among adolescents. Possible reasons for these findings can be that when adolescents especially those with poor social adjustment are allowed to make choices on participating in physical or recreational activities with family members and peers, they may be reluctant to do so unless parents strictly ask them to engage in physical activities such as participating in PE classes in schools. A review by McPherson et al. (2013) found no association between parental monitoring and control and physical activity. However, they found evidence that in some contexts of health and well-being. high family monitoring/control yielded a positive impact for adolescents (McPherson et al., 2013) and others where it had negative impacts on adolescents' outcomes. This indicates that in some aspects of health behaviour, FC may have plausible positive impacts on these adolescents in Ghana. Also, high SAS may mean students have choices on whether to engage in school activities such as PE or exercising which can limit participation in physical activities when school children do not have the motivation to engage in physical education class or recreational activities in school. Thus, the importance of FC and SAS to adolescents' health-promoting behaviours needs further investigation to ascertain the level of FC and SAS necessary for achieving positive impacts on school-aged adolescents' health-promoting behaviour. Also, context and specific dimensions

of health-promoting behaviour should be considered when including FC and SAS in interventions targeting especially the physical activity of in-school adolescents in Ghana.

Regarding MHRB, only FSB and PSS-Fa predicted experiences of MHRB whereas high FSB and PSS-Fa led to low experiences of MHRB. More positive relationships with parents were associated with less risky behaviours, including abstinence, lower incidence of alcohol use, and lower incidence of binge drinking, tobacco use, and drug use (Springer et al., 2006; Yugo & Davidson, 2007; Wen et al., 2009). This can also show the importance of the family over other contexts including school, community, and peers in influencing the developmental outcomes of adolescents. For instance, strong parent-child relationships have been reported to protect adolescents against peer influence on health risk behaviours (Bremner et al., 2011). Lastly, the above findings that FC is important for health-promoting behaviour (PA) but not for health risk behaviour (MHRB) is contrary to review findings that parental monitoring plays no role in the context of health-promoting behaviours, whereas in the context of health risk behaviours, parental monitoring can safeguard against poorer outcomes (McPherson et al., 2013). These inconsistent findings across countries could be related to differences in the measurement of the specific indicators of health behaviour employed in the various studies.

12.2.5 Socioeconomic Status and Health Outcomes: Mediating and Moderating Mechanisms of Psychosocial Social Capital

The psychosocial mechanisms of social capital in the relationship between SES and health outcomes of populations have been widely suggested. Nevertheless, most of the findings are inconsistent across populations and contexts. In this chapter, the psychosocial mechanisms of psychosocial social capital in the SES-health relationship

of Ghanaian school-aged adolescents are examined. The protective mechanisms offered by psychosocial dimensions of social capital in the SES-health status and mental health relationships were revealed for the Ghanaian and LMIC contexts. Broadly, the findings infer that the indicators of social capital employed provide more mediating mechanisms than moderating mechanisms for school-aged adolescents' health outcomes within the specific Ghanaian context. These findings may be explained by the fact that only mediating mechanisms of these specific indicators were proposed in Morgan's social capital framework adopted for analysis in this study (Morgan, 2010).

12.2.5.1 Psychosocial Effects of SES on Health Outcomes through Psychosocial Social Capital (Mediating/Indirect Effects)

- **Self-rated Health**

The study has emphasised that psychosocial dimensions of family (FSB, FAS, FC, PSS-Fa) and community social capital (CSB) offer significant pathways through which SES exerts its effects on adolescents' SRH as proposed by Morgan's social capital framework (Morgan:2010:2011). This explains why the total effect of SES was significant, but the direct effect was insignificant when social capital was introduced in the mediation model as explained in Chapter Seven. FSB, FAS, FC, PSS-Fa, and CSB offered protective mechanisms against SES' effects by functioning as mediators in the relationship between SES and SRH. Studies have shown that FSB, FAS, FC, and CSB offer protection against the effects of SES on children and adolescents' psychological well-being (Addae, 2020a, Kühner, et al., 2021). Ge (2018) also found that familial social capital mediated the relationship between SES and the psychological well-being of Chinese children. Well-being and self-rated health have

been found to have positive associations (Addae, 2020a) hence offering a plausible explanation for these findings. The current study also shows that adolescents with high levels of familial and community social capital are less likely to experience MHPS and have higher SSC which are all related to better self-rated health. Thus, poor adolescents with high familial and community social capital could be protected against consequences such as poor mental health introduced by poverty or low SES which subsequently result in better self-rated health.

Again, from the findings, it can be claimed that FSB contributed more mediating effects, then PSS-Fa, then FAS, then CSB, and lastly FC. Thus, a sense of belonging and autonomy support offered more protection than FC. Sense of belonging and autonomy support is highly acknowledged as basic psychological needs that can empower adolescents to rise above harsh life conditions (Deci & Ryan, 2007) such as one introduced by low socioeconomic conditions and poverty. This supports the role of force characteristics proposed by the bioecological system theory in the development of individuals (Bronfenbrenner & Morris, 2006). Adolescents are likely to obtain these psychological needs through their relationships with their family members especially from parents as well as from other members of their communities thereby boosting resilience and consequently their SRH despite their poor circumstances.

Another reason for the mediating role of this familial social capital is that it has been proposed that children are indirectly affected by low SES and poverty through the impacts of their parents' behaviour toward them (McLoyd; 1990). Similarly, this study found a positive relationship between adolescents' SES and FSB and FAS but a negative relationship between SES and FC. Adolescents from low SES households/families and poor communities are hence more likely to perceive low

belonging to the family, receive less autonomy support, and experience high parental control which all consequently result in poor well-being (Addae, 2020a, Kühner et al., 2021). Where a sense of belonging and autonomy and control support is high in poor households and communities, poor adolescents can hence possibly obtain better self-rated health due to the positive impacts or benefits these psychosocial resources can offer to individuals including helping them possibly build resilience against negative effects of low SES. Again, for poor adolescents to perceive a high sense of belonging and high autonomy and control denote that, at least some basic material and socioemotional needs such as love, care, participation in decision making, respect, and acceptance are provided by family members and community members which can increase poor adolescents' self-esteem/ self-worth and meaning in life (Wilkinson, 2004; Stillman et al., 2009; Lambert et al., 2010: 2013); these are force characteristics that can help poor people build resilience against detrimental effects of low SES and poverty.

Contrary to the study's hypotheses, school and peer contexts played no mediating role in the relationship between SES and SRH. Similar findings from Ghana and Hong Kong suggest that the school context offered no protective function against effects of SES on school children and adolescents' psychological well-being (life satisfaction, subjective well-being, and happiness). For SSB to be a mediator in the SES-SRH relationship, the basic requirement is that there should be an association between SES and SSB, however, the correlation findings showed no association between SES and the adolescents' SSB. Although reports indicate that SES can offer some protection against low SSB (OECD, 2017), this was not the case in this sample. It is hence not surprising that SSB could not significantly mediate the SES-SRH relationship. The findings, however, show that SSB mediated about 3% of SES's

effects on SRH but the mediated effect was not adequate to be significant, implying that SES's effects on SRH in the presence of SSB remain enormous and detrimental. Additionally, SAS offered no protection at all against SES' effects on SRH which is also not astonishing since the basic requirement for mediation analysis was not met according to the correlation analysis, thus SES was not associated with participants' SAS.

While the peer context offered no mediation role in the SES-SRH relationship, peer relationship, however, was found to offer protection against SES's effects on the subjective well-being of Hong Kong school children (Kühner et al., 2021). The reason why peer context offered no protection to adolescents' SRH in this study could be related to the type of indicator (size of peer-based social network) employed in this study. As revealed in this study, a positive relationship between PSN and MHPS was revealed; and MHPS was negatively associated with SRH. It is hence expected that PSN could not function as a mediator in the SES-SRH relationship. Interpretations for the potential for the peer context and social capital to function as a protective health asset based on this finding should hence be done with caution and regard to the specific context and type of indicator examined.

Furthermore, while not all the social capital indicators offered a significant protective role in the SES-SRH relationship, the combined mediating effect of all the indicators was significant indicating that having several dimensions of social capital in diverse contexts can offer multiple protective/mediating effects against SES' effects although not all the specific indicators may be significant mediators. Overall, the employed indicators of social capital jointly mediated over 70% of the total effect of SES on the adolescents' SRH which was massive enough to render the direct effect of SES on SRH insignificant. Thus, psychosocial social capital fully explained the

relationship between SES and the adolescents' SRH.

Also, the family context broadly offered more protection for the adolescents' SRH against SES' effects compared to the other included contexts-community, school, and peer contexts. The primary role of the family as an immediate protective context for children and adolescents' developmental outcomes as compared to other systems in the microsystem and exosystem is undisputed as proposed by the bioecological system theory (Bronfenbrenner & Moris, 2006) and research evidence from both high and low-income countries (Morgan et al., 2012; Addae, 2020a, Kühner et al., 2021).

- **Multiple Health Complaints/Psychosomatic Symptoms**

According to the findings, it can be proposed that psychosocial dimensions of the family, community, and peer social capital (FSB, FC, PSS-Fa, PSN, and CSB) offer protection against SES' effect on adolescents' experiences of MHPS. These indicators of social capital offer pathways by which SES subjects adolescents to social gradient in experiences of MHPS. These findings on the protective role of FSB, FC, PSS-Fa, and CSB can be related to the processes by which SES affects SRH through a sense of belonging, social support, and control as basic psychological needs of adolescents as well as how these force characteristics help adolescents build resilience against SES' negative effects on SRH. SES has been associated with more incidence of stressful life events and stress responses (Baum et al., 1999). In a Swedish adolescent sample, exposure to family stress partly explained the association between SES and the symptoms of mental health problems (Boe et al., 2018) positing the role of psychosocial familial social capital in protecting adolescents' mental health against SES' effects. A higher sense of belonging and social support from family and community members can, therefore, help poor adolescents receive the socioemotional

resources necessary to protect their mental health against the effects of life stressors that arise from poverty and low SES. This subsequently causes poor adolescents to experience no or low symptoms of poor mental health. Also, when poor adolescents experience lower family control, it means they can participate in decisions that concern their well-being and health and have opportunities to engage in activities that are beneficial to their development. This can consequently help poor adolescents find meaning and happiness in their lives (Addae, 2020a) and consequently, have better mental health, hence, experiencing no or low experiences of MHPS.

SES was found to affect MHPS through the size of adolescents' peer-based social networks (number of friends adolescents have). Interpretations for this finding are hard to make due to the positive relationship found between PSN and MHPS, thus as what should be the recommended size of adolescents' friendships to achieve low experiences of MHPS cannot be judged. However, PSN mediating the effects of SES means that perhaps, when poor adolescents have many friends, it possibly offers them some protection as they can source various psychosocial resources from their many friends to help them deal with their disadvantaged socioeconomic circumstances, thereby, buffering negative effects of low SES on their experiences of MHPS. One noted psychosocial effect of low SES is that it prevents poor people from social participation and establishing many social networks (Engels et al., 2011) which consequently limits their access to various social and health resources and subsequently negatively affect their health outcomes. Truly, this study's correlation analysis revealed that adolescents from high socioeconomic backgrounds reported larger PSN (high number of friends) than those from low socioeconomic backgrounds. Thus, possibly, being poor and having fewer friends can have more detrimental effects on adolescents' experiences of MHPS as compared to when poor adolescents have

many friends. Further logistic regression analysis is recommended in future studies to examine how different categories of the size of adolescents' PSN relate to different levels of their experiences of MHPS to enable concrete recommendations of the appropriate number of friends needed by adolescents for better health outcomes.

Again, school social capital did not offer any mediating role in the relationship between SES and MHPS. Although the correlation findings show that SSB can offer some protection against experiences of MHPS, it could not protect MHPS against the effects of SES. This finding could also be related to the reason that SES was not related to the participants' SSB in this study; indicating that a basic requirement for mediation to take place was not met. Nevertheless, supporting the study's findings is that in another study, SSB was not found as a mediator in the relationship between this study's participants' SES and psychological well-being (happiness) which is a crucial indicator of mental well-being (Addae, 2020a).

Additionally, the combined mediating effects of all the social capital indicators were significant although some specific mediations were not significant. This infers that possessing several dimensions of social capital in different contexts can increase the protective effects on MHPS against the effects of SES which has critical implications for interventions and practice. Since the specific ratio of SES' total effect mediated by social capital could not be calculated, it cannot be judged whether psychosocial social capital partly or fully explained the relationship between SES and the adolescents' experiences of MHPS since SES could not predict MHPS even in the absence of social capital.

- **Satisfaction with Self-confidence**

Regarding SSC, only family social capital (FSB, FAS, PSS-Fa) and context were protective of adolescents' cognitive appraisal of their self-confidence against the effects of SES. FAS was responsible for most of the mediation taking place, then, PSS-Fa, and lastly FSB. These findings support the crucial effects of autonomy support in adolescents' empowerment concerning building their self-confidence and self-esteem (Deci & Ryan, 2007). SES may, thus, affects SSC through adolescents' level of perceived belonging to the family, PSS-Fa, and autonomy to participate in decision making or make choices at the family level. Therefore, when there is the possibility that when poor adolescents have high FSB, FAS, and PSS-Fa, they can attain high levels of psychosocial resources needed to boost their self-esteem, hence, buffering the negative effects of low SES on their level of self-confidence.

The combined mediating effect which was significant inferred possible multiple mediating effects of these indicators on the adolescents' SSC compared to when only one indicator is present. This implies that the more the available social capital indicators, the higher the protection for adolescents' outcomes against SES' effects. All the indicators of social capital (FSB, PSS-Fa, FAS, FC, SSB, PSN, and CSB) excluding SAS jointly mediated about 44% of the total effect of SES on SSC which is less than half of the total effect of SES on SSC. This implies that SES effects on SSC are still enormous even in the presence of the many social capital indicators employed. Thus, psychosocial social capital partly explained the relationship between SES and the adolescents' satisfaction with their confidence. Strategies addressing the self-confidence of adolescents through social capital interventions should hence also consider addressing the socioeconomic conditions of the adolescent beneficiaries.

12.2.5.2 Psychosocial Effects of SES on Health Outcomes Through Psychosocial Social Capital (Moderating Effects)

Similar to findings in the mediation models, findings from the moderation model showed that SES directly predicted SRH and SSC. The psychosocial social capital indicators (FSB, FAS, FC, PSS-Fa, and CSB) also significantly predicted SRH of the adolescents as hypothesised. Again, FSB, FC, PSS-Fa, SSB, PSN, and CSB predicted MHPS while FAS, PSS-Fa, and SSB positively predicted SSC as hypothesised. The plausible reasons for these findings have been explained in the previous section above. Comparing the mediation and moderation models, some variations regarding the direct effects of SES and social capital on the outcomes were observed. The variations in the findings could result from the fact that in the moderation models, all the health and health behaviour outcomes were included in the same model implying that effects of the health and health outcomes could have interacted among themselves and all other variables in the model. This could consequently influence the relationship between SES, social capital, and the outcomes unlike in the mediation model where the analyses were run separately for each outcome.

More importantly, the findings show that interaction between SES and all the social capital measures had insignificant effects on SRH, MHPS, and SSC, excluding the interaction effect between SES and CSB on SRH. Surprisingly, the family context which is the most immediate in the microsystem of adolescents' context offered no moderating mechanism in the SES-SRH relationship but the community context which is in the exosytem played a moderating role in the SES-SRH relationship. Thus, CSB moderated the effect of SES on the adolescents' SRH. CSB offered protective benefits for adolescents'' SRH by enhancing the positive relationship between SES and CSB. The findings suggest that when adolescents from a high socioeconomic background

also have a high sense of belonging to their community, they are more likely to attain more benefits to their health status than when they have a low community sense of belonging. Seems CSB offers more benefits to rich adolescents than poor adolescents which could be related to the fact that generally, those who reported high SES reported high CSB than those with low SES. Low SES has been associated with worse access to social participation for children from poor homes (Engels et al., 2011), which could mean that lack of high belonging and engagement in the participants' communities may not have much importance to the health status of poor adolescents since they are likely to be used to social exclusion in their communities. Affluent families may be more likely to use private places such as gyms and parks, and community recreational facilities as well as engage in community meetings and activities which offer opportunities for their children to socialise with especially other rich children in their communities. Thus, these children from high socioeconomic households will be more likely to perceive high belonging to their communities.

12.2.6 Socioeconomic Status and Health Behaviours: Mediating and Moderating Mechanisms of Psychosocial Social Capital

Although many studies have proposed psychosocial mechanisms of social capital in the relationship between SES and health behaviours, the existing evidence is inconsistent across countries and age groups. In this chapter, the psychosocial effects of SES on Ghanaian school-aged adolescents' health-promoting behaviour and health risk behaviour are examined; and evidence of the protective mechanisms offered by psychosocial dimensions of social capital in the SES-health behaviour relationship is revealed. The findings generally imply that the indicators of social capital employed to provide more mediating mechanisms than moderating mechanisms for school-aged adolescents' health-promoting and health risk behaviours within the specific Ghanaian

context. It is worth noting that only mediating mechanisms of these specific indicators were proposed in Morgan's social capital framework adapted for this study (Morgan, 2010). Also, since this is an original study, not much evidence was found to support the findings relating to the specific measures employed in this analysis.

12.2.6.1 Psychosocial Effects of SES on Health Outcomes through Psychosocial Social Capital (Mediating/Indirect effects)

- **Physical Activity**

The analysis revealed some psychosocial dimensions of family (FSB, FC, PSS-Fa) and community (CSB) social capital to be protective of adolescents' physical activity against the effects of SES. Familia and community social capital are hence portrayed as significant pathways by which SES subjects adolescents to social gradient in physical activity (Morgan, 2010). As stated by Deci & Ryan (2007), a sense of connectedness and autonomy offer intrinsic motivation for people to engage in their environment. This can explain the protective role of a sense of belonging and autonomy support in this study. As the findings revealed a positive relationship exists between SES and PA and significant associations are established between SES and familial and community social capital. This implies, that low SES likely negatively affects the PA of the adolescents by first affecting their familial and community social capital, and familial and community social capital later exerts their effects on the adolescents' engagement in physical activities. When poor adolescents have low levels of such familial and community social capital, it can affect their empowerment to socialise and engage with others in the family and communities which consequently affects their physical activity. Therefore, in situations where the socioeconomic conditions of poor adolescents cannot be easily influenced or enhanced, both familial

and community social capital can be enhanced to buffer the negative effects of low SES on poor adolescents' physical activity.

Perceived sense of belonging to a community (CSB) was a more important protective factor for PA than the employed family social capital indicators which could be because the CSB measure employed in this study is characterised by a safe environment with playgrounds where adolescents can play. Thus, it is obvious that adolescents from Ghana engage in physical activities such as sports and exercising in community playgrounds than at home. Therefore, when poor adolescents have access to community recreational resources and feel safe to engage in their communities, they stand a higher chance to be more physically active than when they are poor and also perceive a low sense of belonging and engagement in their communities. Again, family social capital characterised by a high sense of belonging, high social support, and less family/parental control was found to offer protection against the effects of SES. FSB offers the largest size of protective effects for PA, then PSS-Fa, and lastly FC.

Lastly, while mediating effects contributed by the school and peer social capital were insignificant, their effects combined with the other indicators increased the combined mediating effect of social capital on the adolescents' PA. Jointly, social capital mediated about 56% of the total effect of SES on PA. This implies that while not all social capital indicators will play a mediating role, they can still offer some level of protection for adolescents PA when utilised together with other indicators; thus, the more the social capital, the more the protective effects provided.

- **Multiple Health Risk Behaviour**

Only familial social capital (FSB and PSS-Fa) protected adolescents' experiences of MHRB, Thus, only two mediators were identified unlike as hypothesised. The importance of FSB and PSS-Fa to adolescents' health risk behaviours has been adequately elaborated in the previous chapters. The findings hence propose that low SES affects poor adolescents' experiences of health risk behaviours by limiting their FSB and PSS-Fa. The consequences of lacking a sense of belonging to the family as well as social support could mean poor adolescents adopting unhealthy coping strategies including risk behaviours such as sexual activity, alcohol, and cannabis intake to deal with poverty-associated stress. Therefore, if a high sense of belonging and social support is provided in poor households, especially from extended family members to poor parents and their children, poor adolescents are likely to attain adequate psychosocial resources necessary to meet their specific needs, enhance self-esteem, meaning in life and empower them to build resilience against low socioeconomic conditions rather than adopting risky health behaviours as coping strategies. For instance, evidence infers that, positive relationships are protective across several sexual health outcomes for adolescents (McPherson et al., 2013).

Moreover, the significant combined effect of social capital on MHRB indicates possible multiple mediating effects although not all the specific mediating effects were significant. This implies the importance of all the indicators in offering some sort of protection for adolescents' experiences of MHRB.

Lastly, social capital especially FSB, PSS-Fa, SSB, and CSB when combined can mediate an enormous amount of the total effect of SES on adolescents' experiences of MHRB to the extent of diminishing the effect of SES on MHRB. There is thus the critical need to ensure that social capital in these contexts of adolescents is advocated in health promotion agendas in especially Ghana. More emphasis should however be

placed on the role of FSSB and PSS-Fa as they offer the highest mediating mechanisms in the SES-MHRB relationship.

12.2.6.2 Psychosocial Effects of SES on Health Outcomes through Psychosocial Social Capital (Moderating Effects)

Revealed from this study is that among all the employed social capital indicators, only PSS-Fa was a significant moderator in the relationship between SES and adolescents' physical activity (PA). In an interaction between SES and PSS-Fa, PSS-Fa weakened the positive relationship between SES and PA. This implies that adolescents with lower SES were more likely to benefit from PSS-Fa concerning their ability to be physically active instead of being in a disadvantaged position. The moderation plot shows that adolescents with low SES, but high PSS-Fa could attain high PA than adolescents with both low SES and low PSS-Fa. Social support from the family functions as a protective health asset for promoting physical activity among especially adolescents from a less privileged background. This is because even when the parents are poor, social support received from external family members can empower poor adolescents to avoid social exclusion and actively engage in health-promoting behaviours.

Also, the interaction between CSB and SES resulted in CSB moderating the effect of SES on adolescents' experiences of MHRB by strengthening the negative relationship between SES and MHRB. High levels of CSB enabled adolescents from high SES households to experience a lower number of health risk behaviours than those from low SES households who have high CSB. Again, CSB seems to be of more importance to adolescents from high affluence households than it is to those from low SES households. This could also be because generally, those with high SES are more likely to have high CSB and low experiences of MHRB compared to those reporting

low SES. Therefore, having both high SES as well as high SSB will multiply the benefits that SES offers to protect rich children's experiences of MHRB. This finding implies that some indicators of social capital may be more beneficial to certain groups of adolescents than others when amidst socioeconomic status.

12.2.7 Social Capital as A Protective Health Asset for Adolescents' Health-Related Outcomes: Adolescents' Perspectives and Experiences

The qualitative study has revealed that truly, psychosocial social capital can play a protective role for the health-related outcomes of school-aged adolescents irrespective of their socioeconomic status (SES). Psychosocial social capital was portrayed to function as a protective health asset for three aspects of adolescents' lives: positive mental health (*happiness, perceived meaning in life, positive affects), physical health, and health behaviours (health-promoting and risky behaviours)*. Although the participants were not presented with the concept of social capital during the discussions, the passion and emphasis with which the participants continuously stressed the importance of psychological/emotional and social needs for the health-related outcomes of both adolescents from rich and poor households echo the adolescents' acknowledgement that psychosocial social capital which fulfils adolescents' basic psychological needs can significantly empower them to build resilience, prevent social exclusion, overcome life stressors including poverty, and attain positive health and health behaviours (Morgan 2010:2011).

More specifically, for adolescents from affluent households, familial, peer, and community social capital was perceived to enhance their happiness level while for adolescents from poor households, instead of experiencing low happiness because of their poor circumstances as often theoretically assumed, due to their accumulation of various indicators of social capital, they can still attain happiness (Addae, 2020a).

Positive parent-child relationship, family sense of belonging, family social support, family autonomy, and control, positive peer relationship, peer social support, community sense of belonging, and community social support were reported to be crucial elements needed to shield adolescents' mental well-being against effects of socioeconomic status and consequently boost their happiness. All these elements of social capital offer varying mechanisms that help adolescents build resilience and overcome the consequences of poverty and low SES. For instance, positive parent-child relationship and family sense of belonging were reported by the participants to prevent negative emotions such as feelings of loneliness, isolation, neglect, and sadness all of which are related to mental health and psychological complaints (Inchley et al., 2016; Hawkley & Capitanio, 2015; Freeman et al., 2016). Happiness is a crucial marker of positive mental health and well-being and is dependent on mental health (McPherson et al., 2014). Hence, once social capital can help adolescents to achieve happiness, it implies the likelihood that social capital can consequently enable them to attain positive mental health and even possibly high health status, as a positive link between happiness and self-rated health of the study participants has been found (Addae, 2020a).

Concerning perceived meaning in life, the participants' accounts indicated that particularly, poor people enjoy their lives because social capital offers them emotional needs that help them to find their lives meaningful through connecting and interacting with members of their communities. Thus, community autonomy support characterised by positive interaction between adults and adolescents and freedom for adolescents to engage in communal recreational activities is very crucial in helping especially poor adolescents cope with their poor situations and find their lives meaningful. Finding life meaningful is also an indicator of mental health and has been

found as a protective factor against suicidal tendencies (Maslow, 1962; Van Deurzen, 2001). A recent study revealed that the presence of meaning in life can be a useful protective factor against suicidal behaviours among Chinese university students (Lew et al., 2020). This present study can hence assume that psychosocial social capital can potentially protect the mental health outcomes of especially poor adolescents in Ghana.

Concerning health behaviours, the narrations also inferred that peer, family, and community social capital enable poor adolescents to adopt positive health behaviours such as avoiding risky behaviours by providing adolescents with social support in the forms of advice and information/knowledge (Kawachi & Berkman, 2000; Lindstrom, 2008; Samdal et al., 2000). Also, due to access to family and community autonomy support, they can remain physically active due to the freedom to socialise and participate in recreational activities with peers and other community members. Family and community social capital has been associated with physical activity (Bwalya & Sukumar; 2017). Findings from this thesis' quantitative study have shown evidence that social capital in the family and community contexts can protect adolescents against multiple health risk behaviours and enhance physical activity in the presence of SES. Generally, the qualitative study has supported the study's theoretical foundation (a health asset approach) and revealed that several theoretical assumptions made in the quantitative study are true. First, similar to the quantitative findings, the study supports the notion that psychosocial dimensions of social capital can offer some protective mechanisms against SES's effects on school-aged adolescents' health and health behaviours (Morgan & Ziglo; Morgan, 2010). This offers theoretical guidance for social capital researchers; to gain a deeper understanding of how social capital manifests its protective mechanisms from adolescents' voices, the *health asset approach* can be employed to guide qualitative

research design.

Secondly, the constructs or indicators of psychosocial social capital perceived by the adolescent participants to potentially function as a health asset for health-related outcomes of adolescents in the study region concur with the indicators of social capital (sense of belonging, autonomy, and control, social support, and social network) stated in the social capital framework developed by Morgan (2010) which defined the theoretical and conceptual framework of the quantitative study. Thus, the qualitative study has confirmed the importance for promoting these indicators of psychosocial social capital as basic psychological needs and potential components in interventions for promoting adolescents' development and empowerment. Nevertheless, some identified dimensions of social capital (parent-child relationship and peer relationship) are not included in Morgan's social capital framework adapted for this thesis. This prompts the need for future research to develop a social capital framework for researching the well-being, health, and health behaviours of adolescents in the LMIC context. Thus, some dimensions of social capital that are important to adolescents in the specific LMIC context may not have been identified for European adolescents when Morgan (2010) developed the social capital framework for young people based on the qualitative study involving European adolescents.

Lastly, this study supports the assumptions on the role of social contexts-environment such as the family, community, and peer contexts in building and providing protective health assets (psychosocial social capital) for young people to promote positive health and health behaviours of adolescents (Bronfenbrenner & Moris, 2006; Morgan, 2010; Morgan & Haglund, 2009). Thus, agents in these contexts have crucial roles to play in empowering adolescents to accrue the required psychosocial social capital for their health promotion. However, contrary to the social

capital framework, the school context and for that matter school social capital was not reported by the adolescents to be protective of their health-related outcomes, particularly regarding their happiness in the presence of SES. This finding is not surprising as school social capital (school sense of belonging) was found to not provide any protective mechanism against the effects of SES on the happiness of adolescents from the study region in a quantitative study involving the same sample from this thesis (Addae, 2020a). Also, similar to the quantitative findings in this thesis, compared to the family, peers, and community contexts, the school context offered no protective mechanisms against SES's effects on the health and health behaviour outcomes of the adolescents.

12.3 Conclusions (Chapter Six – Chapter Eleven)

This study sought to find substantial evidence to make policy and practice contributions that can enable policymakers and stakeholders potentially contribute to the United Nations' SDG 3 and 10. Subsequently, the study has endeavoured to offer advanced insight and understanding of the various psychosocial mechanisms and pathways through which socioeconomic inequalities in health and health behaviours are established during adolescence. It, moreover, has added to WHO-CSDH's recommendation for researchers to raise public awareness about the social determinants of young people's health and health behaviours (WHO, 2008; Inchley et al., 2016). To achieve these, this thesis employed comprehensive mixed-method approaches as well as advanced analytical tools and techniques used in social sciences research to identify exactly what are the psychosocial mechanisms of social capital in the relationships between SES and adolescents' health and health behaviours for school-aged adolescents in the specific Ghanaian context. A series of statistical analyses including descriptive analysis, cross-tabulation-Chi square, Spearman

correlation, bootstrapping mediation, and moderation analysis in SEM-AMOS in SPSS were done to test how the proposed theoretical framework developed based on socioecological and health asset approaches applies to the Ghanaian context.

A representative multi-stage stratified cluster cross-sectional survey data from a sample of 2,068 in-school adolescents from Ghana were utilised in the analysis. Also, content and thematic analysis of qualitative data from focus group discussions utilising adequate sample size were done to capture the voices of school-aged adolescents in Ghana. Several research gaps that were identified during the review of previous works on this topic have been sufficiently addressed in this study. This study has, thus, added to the scarce literature on the protective role of social capital for the health and health behaviour of adolescents, particularly in the LMIC context. Findings presented in Chapter Six indicate that the potential influence of sociodemographic factors (SDCs) on the health and health behaviour of school-aged adolescents in Ghana has been supported in this study. Generally, sociodemographic factors are found to be critical social determinants of adolescents' health and health behaviours. Sociodemographic factors exerted their influences on adolescents' developmental outcomes by creating disparities in their access to positive health status, mental health, and health-promoting behaviours (Bronfenbrenner, 1979; Freeman et al., 2016; Inchley et al., 2016; Addae 2020a: b). As a result, certain cohorts of the adolescent populace faced health inequalities and were at a huge risk of facing diverse forms of health risk behaviours that are detrimental to their overall development. SDCs can significantly expose adolescents to diverse levels of both social and health inequalities in the specific Ghanaian context and must be acknowledged as such in research, social, and public health interventions, and policy strategies (Addae, 2020b; Addae & Kühner, 2022). More specifically, some population groups including especially females, victims of

bullying, junior high school students, adolescents from Ghana's poorest district (Wa West), adolescents not living with both biological parents, adolescents who are Traditionalists, and younger adolescents are more at risk of experiencing poor general health, poor mental health (low self-confidence, high multiple health/psychosomatic symptoms), poor health-promoting behaviours and a high number of health risk behaviours including smoking, sexual intercourse, cannabis use, alcohol drinking, and bullying.

Secondly, the findings in Chapter Six assert that SES and psychosocial social capital are significant social determinants of health and health behaviours and have the potential to establish huge gaps in the health and health behaviour outcomes of different categories of adolescents based on their position on the SES ladder as well as on the amount of social capital they possess (WHO, 2008; Morgan, 2010:2011; Morgan et al., 2012; Addae, 2020b). The findings imply that SES and the employed indicators of psychosocial social capital have the potential to subject school-aged adolescents to diverse forms of social injustices as well as inequalities in health and both health-promoting behaviour and health risk behaviours (Lindstrom, 2008; Morgan & Haglund, 2009; Ball et al., 2010; McPherson et al., 2013; Bwalya & Sukumar, 2017). Thus, adolescents from high socioeconomic backgrounds have better chances to access higher levels of social capital as well as to attain higher positive health and health-promoting behaviour outcomes than those from a low socioeconomic background (Morgan & Haglund, 2009; Addae, 2020a: b). This finding underscores the possible psychosocial effect of socioeconomic status through social capital (WHO, 2008). Also, adolescents with high levels of psychosocial social capital stand higher chances of adopting health-promoting behaviours and stand lower chances of experiencing or engaging in health risk behaviours (McPherson et al.,

2013). They are again more likely to attain positive health outcomes than adolescents with lower levels of psychosocial social capital (Morgan, 2010; Morgan et al., 2012; McPherson et al., 2013).The good news is that social capital can be built and developed in the family, school, community, and peer contexts to enable adolescents to attain equal or equitable access to psychosocial social capital to prevent social inequalities/injustice and promote their positive health outcomes and healthy behaviours. The potential role of psychosocial social capital as a vital health asset for promoting the development of adolescents especially, the dimensions of health and health behaviour is mirrored in this study.

The findings also infer that health and health behaviours are related and as such a holistic intervention approach to tackling adolescents' developmental outcomes should consider addressing the health outcomes as well as health-promoting and health risk behaviours concurrently. These findings suggest the multidimensionality of adolescents' health and health behaviours (Currie et al., 2000) as well as the need for addressing demographic disparities, building high psychosocial social capital, and improving socioeconomic conditions of adolescents in Ghana for better developmental outcomes.

Findings from Chapter Seven support the study's theoretical arguments on the capacity of SES to establish inequalities and social gradients in health and health behaviours among school-aged adolescents (Morgan, 2010:2011). Also, the findings underscore the inconsistencies found across different countries on the relationship between SES and health and health behaviour outcomes (Costa et al., 2016). Nevertheless, the significant effects of SES on school-aged adolescents' health status and mental health (self-confidence) as well as health-promoting behaviours (physical activity) are evidenced by the study findings. This underscores the need for specific

analysis for specific countries and different population groups in designing social and public health interventions targeting in-school adolescents' SES and health and health behaviours. The significant effects of SES on adolescents' health and health behaviours also signify the need for social protection policies that address the monetary needs of school-aged adolescents if a holistic health promotion is desired (Addae & Kuhner, 2022). SES is revealed as a crucial social determinant that can alter the development of adolescents by subjecting them to various levels of social gradients in their health and health behaviours (Currie et al., 2012; Inchley et al., 2016). The potential mediating and or moderating role of social capital in the relationships between SES and adolescents' health and health behaviour outcomes is also revealed in the findings. These findings prompt the need for researchers to undertake mediation and moderation analysis to ascertain the potential for psychosocial social capital to function as protective health assets for school-aged adolescents' various developmental dimensions (health status, mental health, health-promoting behaviour, and health risk behaviours) against effects of SES (WHO, 2008; Buijs et al., 2016). The findings also shed light on the significant role of sociodemographic factors in exposing Ghanaian school-aged adolescents to diverse inequalities even in the presence of crucial factors such as SES and psychosocial social capital. This offers adequate evidence of the need for stakeholders to address specific needs of specific adolescent population groups whose health and health behaviours are at more risk of being neglected in family, school, community, and national policies and interventions.

According to reports in Chapter Eight, overall, there is evidence portraying psychosocial social capital as a potential protective health asset for promoting Ghanaian school-aged adolescents' health and health behaviours even after accounting for adolescents' SDCs and SES (Morgan, 2010:2011). The findings show that

generally, the various dimensions of psychosocial social capital employed in this study are crucial social determinants of school-aged adolescents' health status, mental health (self-confidence and multiple health/psychosomatic symptoms), health-promoting behaviours (physical activity), and multiple health risk behaviours comprising sexual intercourse, bullying, smoking, alcohol intake, and cannabis use (Morgan, 2010. McPherson et al., 2013). Additionally, family psychosocial social capital characterised by a sense of belonging, autonomy, and control support for adolescents, and social support are revealed to be the most crucial for promoting the health outcomes and health-promoting behaviour of adolescents while family social capital characterised by sense of belonging and social support are crucial for protecting them against experiences of multiple health risk behaviours (McPherson et., 2013). Also, school and community psychosocial social capital characterised by a sense of belonging were the crucial social determinants of Ghanaian adolescents' health and health-promoting behaviour outcomes (McPherson et., 2013). It appeared that school, community, and peer social capital, as well as contexts, played no important role in Ghanaian school-aged adolescents' experiences of MHRB when SES and SDCs are accounted for. Similarly, the peer and community contexts seem not to play an important role in the SSC of the adolescents in the presence of SES and the SDCs.

Regarding the participants' experiences of MHPS, it was revealed that all the contexts investigated in the study, thus, the family, school, community, and peer contexts are important social factors for altering adolescents' experiences MHPS even amidst the effects of SES and SDCs (Currie et al., 2012; Inchley et al., 2016). This indicates that the social environments of adolescents in diverse ways can subject adolescents to harsh conditions that can cause them to show symptoms of poor mental health (Currie et al., 2000; Freeman et al., 2016). All the findings illustrate that

psychosocial social capital plays different roles in different developmental outcomes of school-aged adolescents in particularly, Ghana. Therefore, evidence-based interventions and policy strategies must be implemented to ensure that appropriate dimensions of social capital are being employed as complements or key elements in programmes targeting appropriate developmental outcomes for adolescents (Morgan et al., 2012). Again, while social capital generally shows positive impacts and offers protective benefits to adolescents, it can also create inequalities in health and health behaviours in situations where there is an unequal distribution of social capital in the family, school, community, and peer contexts of adolescents (Addae, 2020b). This can pose risks of social exclusion of some population groups, causing them to suffer poor self-rated health, low self-confidence, multiple health/psychosomatic symptoms, poor health-promoting behaviours, and high experiences of many risk behaviours. There is hence a need to ensure equal and equitable access to psychosocial social capital among all groups of adolescents (Addae, 2020b).

Chapter Nine explored what exactly are the protective mechanisms of social capital for school-aged adolescents' health outcomes amidst socioeconomic status effects. The findings suggest that, overall, although not all the hypotheses were supported, psychosocial social capital derived from the microsystem (family) and exosystem (community) of adolescents' social contexts offered some mechanisms by which SES affected the health outcomes of school-aged adolescents in Ghana, supporting the study's theoretical arguments (Morgan & Ziglo, 2007; Morgan, 2010; Bronfenbrenner & Morris, 2006). The crucial role of the microsystem and the exosystem in offering crucial social determinants of adolescents' health outcomes provide significant implications for social and public health policies and practice in Ghana as presented in Chapter Twelve of this thesis. The findings emphasised that

familial psychosocial social capital characterised by a sense of belonging, autonomy, and control, and social support has the potential to function as a mediator in the relationship between SES and Ghanaian adolescents' health status and mental health. Regarding the family context, indicators of familial social capital stood out as the most influential in mediating most of the effects of SES on adolescents' health outcomes. The primary role of the family in protecting adolescents' health outcomes is, thus, paramount over other contexts and must be given the required prioritisation in social public health policies (Morgan et al., 2012; Addae, 2020). Social fabrics within, especially, Ghanaian family context and households can be developed to offer crucial non-monetary safety nets for advancing positive health outcomes of especially socioeconomic disadvantaged adolescents in Ghana. Familial social capital is subsequently portrayed as a protective health asset against life stressors and a component that should be considered in social protection strategies, interventions, and programmes targeting promoting positive health outcomes among especially poor school-aged adolescents in LMICs such as Ghana (Addae & Kühner, 2022).

Also, psychosocial social capital at the community level characterised by a sense of belonging can function as both a mediator and a moderator in the relationship between adolescents' SES and their health status (Buijs et al., 2016). The community context can provide vital protective mechanisms to protect the health outcomes of especially adolescents from low affluence households. The Ghanaian community social fabric should be promoted as a significant non-monetary safety net in national social protection strategies, community interventions, and campaigns seeking to offer equal and equitable health outcomes for particularly socioeconomic disadvantaged school-aged adolescents in LMICs.

While school and peer contexts can offer health assets for protecting the health

and health behaviours of school-aged adolescents (Morgan, 2010:2011; Morgan et al., 2012; Inchley et al., 2016), the capacity of the protection offered cannot override the impact that socioeconomic status has on adolescents' health and health behaviours. Therefore, programmes targeting school and peer contexts in promoting the health outcomes of poor adolescents should also seek to improve their socioeconomic conditions. Regarding the school context, this can be done through the provision of educational needs such as scholarships and the provision of academic materials and support which can help improve students' school sense of belonging and school engagement to consequently enhance their health outcomes. Interventions utilising peers such as peer advisor groups, peer mentoring, peer counsellors, etc. should also endeavour to address the socioeconomic circumstances of the adolescent recipients to enhance the protective role peer relationships and friendships provide for especially underprivileged adolescents.

Moreover, the findings broadly suggest that psychosocial social capital considering the specific indicators and health outcomes employed in this study offers more mediating mechanisms than moderating mechanisms for the relationship between SES and school-aged adolescents' health outcomes in Ghana. Stakeholders should be cautious in their application of social capital as elements in health promotion agendas as different dimensions of social capital offer different forms of protection for various dimensions of health outcomes.

According to Chapter Ten, psychosocial dimensions of familial and community social capital are indeed significant social determinants and protective health assets for promoting the health behaviours of school-aged adolescents in Ghana even amidst poor socioeconomic conditions (Morgan, 2010). Overall, the protective function of the microsystem (family, school, and peer contexts) and the exosystem

(community) as critical providers of health assets for promoting especially school-aged adolescents' health and health behaviours as proposed by the theoretical framework are undoubtedly confirmed in this study (Bronfenbrenner & Morris, 2006). Psychosocial social capital can reduce or prevent social gradients in adolescents' health behaviours by enabling especially poor adolescents to overcome the harsh consequences associated with poverty and low socioeconomic circumstances while enabling affluent adolescents to attain more benefits for their health behaviour outcomes. Psychosocial social capital is a necessity for both rich and poor adolescents and equal and equitable access to social capital can promote positive outcomes for the health behaviours of both cohorts of adolescents. Specifically, the psychosocial mechanism of family social capital characterised by a sense of belonging, control, and social support in the relationship between SES and adolescents' health-promoting behaviour (physical activity) and health risk behaviour (experiences of MHRB) is revealed to be that of a mediating mechanism (Morgan, 2010). Promoting the development of high-quality positive parent/family-adolescent relationships whereby adolescents can perceive a high sense of belonging to the family, low family/parental control, and high social support could hence substantially enhance resilience and prevent especially poor adolescents from experiencing negative consequences introduced by low SES on their capacity to adopt positive health behaviours.

Furthermore, the psychosocial mechanism of community social capital characterised by a sense of belonging in the relationship between SES and health-promoting behaviour is a mediating mechanism (Morgan, 2010) but that of a moderating mechanism in the SES-health risk behaviour relationship. Community social capital can offer diverse protection for adolescents' health behaviours, and it is an important protective resource for positive health behaviour promotion of

adolescents from both low and high affluent families. Additionally, while the school and peer social capital offered neither mediating nor moderating mechanisms, they offer to some extent protection for adolescents' health-promoting behaviours and should be included together with other psychosocial dimensions of social capital to jointly boost the protective role of social capital (mediating effects) on adolescents' health-promoting behaviours as these have substantial implications for tackling socioeconomic inequalities in school-aged adolescents' health-promoting and health risk behaviours.

Lastly, according to Chapter Eleven, largely, adolescents in Ghana have a high awareness of the significance of fulfilling adolescents' psychological and social needs. They are also aware that it takes more than wealth and socioeconomic status for adolescents to attain holistic positive developmental outcomes. Thus, the findings posit that adolescents from low socioeconomic backgrounds can still achieve positive health-related outcomes while for adolescents from high socioeconomic backgrounds, they can attain even higher positive health-related outcomes if they both possess psychosocial social capital accumulated from strong social relationships that span the family, community, and peer contexts (Addae, 2020a, Kühner et al., 2021). The protective function of psychosocial social capital as a potential protective health asset for the health promotion of adolescents in Ghana is, thus, asserted by adolescents' voices. There is, thus, resounding evidence for the need for social and public health practitioners to consider incorporating social approaches not their strategies. This is attainable by acknowledging psychosocial social capital either as a fundamental component or complement in national and local strategies aiming to address the well-being, health, and health behaviour of school-aged adolescents from particularly, low socioeconomic backgrounds in Ghana (Addae, 2020a; Addae & Kühner, 2022).

Additionally, this chapter offer support to most of the findings in the quantitative study and suggested that in fact, the health asset approach offers crucial potential for researchers to explore the protective function of psychosocial social capital as a health asset for promoting school-aged adolescents' well-being, health and health behaviours amidst socioeconomic circumstances. It also revealed specifically that psychosocial social capital is important for protecting the psychological well-being and mental health (happiness, joy, loneliness, perceived neglect, and meaning in life) of especially poor adolescents in Ghana (Addae, 2020a, Addae & Kühner, 2022).

12.4 Strengths and Limitations

This study has several strengths which first is the utilisation of sub-domains of social capital that were established as part of the WHO-Health Behaviour in School-aged Children (WHO-HBSC) optional package and have been extensively validated and established in cross-national studies by researchers to be protective health assets for young people. Utilising these sub-domains of social capital offers robust grounds for social and public health practitioners to recognise the importance of the study findings.

Furthermore, this study utilised validated and reliable measurement instruments that were established expressly for adolescents in LMICs-Ghana and instruments validated to be homogeneous. This strengthens evidence on the presentation of the SES, social capital and health and health behaviour outcomes of school-aged adolescents in Ghana.

Additionally, this study is among the few to examine the interplay among adolescents' SES, psychosocial social capital, health status, mental health, health-promoting behaviour, and health risk behaviours concurrently in the LMIC context. Thus, providing original discoveries in the literature on the protective role of psychosocial social capital for adolescents' health status, self-confidence, experiences

of multiple health/psychosomatic complaints or symptoms, physical activity, and experiences of multiple health risk behaviours against negative effects of low SES in the LMIC context.

Additionally, the study employed diverse dimensions of psychosocial social capital, health outcomes, and health behaviours simultaneously in the same study while controlling for several sociodemographic factors and yet obtained evidence on the protective role of psychosocial social capital for school-aged adolescents' health and health behaviours against effects of low socioeconomic conditions. The findings are, thus, robust and can confidently be used as a base for substantial policy, intervention, and programme recommendations for stakeholders in Ghana as well as elsewhere in LMICs.

Furthermore, the study employed complex analytical tools and techniques used for examining causal pathways and relationships in social sciences research to provide evidence on the potential for psychosocial social capital to function as a protective health asset for Ghanaian adolescents and adolescents in other LMICs. Thus, confidently adding to the academic debate on what exactly is the psychosocial mechanisms of psychosocial social capital in the relationship between SES and adolescents' health and health behaviours in the LMIC context.

The last strength of the study is that comprehensive mixed-method approaches were utilised to account for the limitations of using either only quantitative or qualitative approaches in research. Thus, providing evidence both statistically and narratively allows for a deeper understanding of the study's aim and theoretical framework as well as offer undeniable evidence on the role of SES and social capital as crucial social determinants of adolescents' well-being, health and health behaviours. This study can, hence, set the pace for other researchers interested in promoting social

capital as a health asset in health promotion programmes for young people in LMICs.

One of the limitations of this study is that applying cross-sectional data did not permit any causality to be determined between SES, psychosocial social capital, and health and health behaviour of adolescents in Ghana. Future studies should consider utilising longitudinal study designs for more robust evidence on the causal relationships between SES and social capital, health, and health behaviours of school-aged adolescents. Moreover, though representative, only a sample from Northern Ghana was engaged in the study. Contemplating the two distinct regional socioeconomic positions in Ghana, a sample representing both adolescents from Northern and Southern Ghana could aid in providing a more robust generalisation of the findings. Future research ought to hence incorporate survey data from both regions. Also, considering the huge variations in socioeconomic conditions within the same region, future studies should consider utilising three-level regression/SEM models incorporating districts, families, and individuals. To do this, the characteristics of communities should be assessed by both subjective and objective socioeconomic indicators.

12.5 Data and Theoretical Contributions

This study has crucially added voices from the LMIC context to the global academic debate regarding the inconsistencies in the impact of social capital on adolescents' developmental outcomes, especially amidst poor socioeconomic circumstances. More specifically, this study is the first to concurrently offer suggestions regarding what is/are the psychosocial mechanisms of social capital in the presence of socioeconomic status, health status, mental health, health-promoting behaviours, and health risk behaviours of adolescents in Ghana. The findings have revealed that diverse dimensions of social capital amidst SES play different roles as pathways to,

particularly school-aged adolescents' health and health behaviours and as such propose to researchers, the need for country-specific studies.

Also, the study has contributed to the academic literature on the social determinants of health and social approaches to addressing young peoples' health and health behaviours as proposed by WHO. This is achieved by employing specific dimensions of psychosocial social capital and health and health behaviour outcomes that have not yet been employed in studies in Ghana and even in the broader sub-Saharan African context. Thus, this study offers the first insights into the psychosocial mechanisms of social capital and its potential to function as both a moderator and mediator in the specific health and health behaviour outcomes of school-aged adolescents in LMICs in the same study. Despite that most of the interaction effects were not significant, the potential for social capital to function as a moderator is evidenced in this study. Future studies can add to this study's moderation analysis by centering the variables and using categorical variables of SES rather than continuous variable to identify possible significant interaction effects between SES and social capital on the adolescents' outcomes.

The study moreover contributes to knowledge and theory by employing both quantitative and qualitative approaches to test the theoretical framework employed in the study. Thus, this study has added to the academic literature on the importance of social capital to function as a protective health asset for the health and health behaviours of school-aged adolescents, especially in the LIMC context. This is achieved by testing a robust theoretical framework that can be applied to the public health, psychology, social policy, and sociology disciplines. The study has successfully employed socioecological perspectives and the health asset approach to provide new theoretical perspectives and insights into the conceptualisation of the role

of psychosocial social capital in the relationship between SES and diverse dimensions of health and health behaviours of school-aged adolescents as well as the role of the microsystem and exosystem of adolescents' social environment in their development. This offers theoretical guidance for social capital researchers and offers a deeper understanding of how social capital manifests its protective mechanisms both statistically and narratively. The qualitative study particularly offers evidence and a foundation for a social capital framework to be developed for researching the social determinants of young people's well-being, health, and health behaviours in especially the LMIC context. Thus, the qualitative and quantitative data from this study can be further analysed in future research work to develop a social capital framework that can be utilised by social capital researchers interested in advocating for asset-based approaches to addressing young people's developmental outcomes.

Moreover, this study has presented novel academic arguments for considerations that would require further investigation by researchers and stakeholders interested in utilising adolescents' peer, family, and school social capital as elements in policy and intervention programmes targeting adolescents' mental health and health-promoting behaviours. First, the role of the size of adolescents' peer-based social networks involving the number of friends, presents some debates as to whether it is appropriate for adolescents to have large peer-based social networks or not? This is because the study has revealed that too many friends can be harmful to their experiences of multiple health complaints and psychosomatic symptoms which can have bad consequences for their mental health. This presents interesting research arguments about the role of friendships and how many friends are recommended for positive outcomes for adolescents. Also, positive impacts of high family control were revealed on adolescents' physical activity which was inconsistent with the general

hypothesis that high parental control and monitoring present negative impacts on adolescents' outcomes. This study hence contributes to the literature by offering further academic and theoretical debates on the importance of family control for adolescents' physical activity in especially the LMIC context. Additionally, interestingly, high school autonomy support also showed negative impacts on adolescents' physical activity which is also contrary to the general theoretical arguments. Further academic debate and investigation into the significance of high school autonomy support are hence suggested to researchers and advocates of autonomy support as well as physical activity for young students. Thus, addressing the question, what level of autonomy support should be granted to in-school adolescents to achieve positive outcomes for their physical activity?

Finally, this study has overall yielded several substantial findings that are worth sharing with the global research and scientific academic community. Several publications can be derived from both the quantitative and qualitative findings presented in the various chapters of the thesis. This is critical for providing national and regional-level evidence on the psychosocial pathways by which socioeconomic inequalities affect the health and health behaviours of school-aged adolescents in both sub-Saharan Africa and LMICs. It will also offer evidence and lessons for policymakers, public health practitioners, and NGOs on which psychosocial resources can potentially function as either mediators and/or moderators ('health assets') in health promotion strategies in some countries sharing similar characteristics with Ghana.

12.6 Policy and Practice Implications

One key objective of the study was to offer crucial policy recommendations for promoting the health and health behaviours of school-aged adolescents in Ghana as well as in other countries that particularly share similar cultural and socioeconomic characteristics with Ghana. Nevertheless, since all adolescents experience and undergo similar physical and psychological development, practice implications from this study can be of importance and interest to even stakeholders from other countries beyond the LMIC context. Findings from this study present substantial contributions to policy and practice at the family, school, peer, and community levels as well as at the national level that can make huge contributions to both social and public health promotion agendas in especially Ghana if effectively implemented. Specific implications of the study findings presented in Chapters Six to Eleven are elaborated in the following sections.

- **Implications at the Family Level**

The protective role of the family as the immediate social context of children and adolescents cannot be argued (Bronfenbrenner & Morris, 2006; Morgan et al., 2012; Inchley et al., 2016; Addae, 2020). Positive parent-child/adolescent relationships characterised by a high sense of belonging, autonomy support, social support, and less parental control can offer adolescents with healthy developmental outcomes including positive general health and positive mental health (high self-confidence and low experiences of multiple health complaints and psychosomatic symptoms), psychological well-being (happiness) as well as influence adolescents to adopt health-promoting behaviours and prevent experiences of multiple health risk behaviours (Morgan, 2010; McPherson et al., 2013; Inchley et al., 2016; Addae, 2020a; Addae &

Kühner, 2022). The qualitative evidence additionally, infers that the happiness of poor adolescents can be protected by familial social capital against effects of poverty (Addae, 2020a; Addae & Kühner, 2022).

According to the correlation results, offering a high sense of belonging at home contributes to adolescents perceived high sense of belonging with school and community as well as a high peer-based social network. Thus, family experiences are likely to influence adolescents' experiences with their school, peers, and community (Bronfenbrenner 1979; Stivaros, 2007). It is, therefore, important that family members especially parents and guardians recognise their capacity to alter adolescents' experiences within other social contexts, and that their actions can create multiple effects on other aspects of adolescents' lives and development.

Also, high FSB is associated with high perceived FAS and PSS-Fa, as well as low perceived family control. This implies that diverse indicators of social capital are interconnected, and as such building or enhancing one dimension can consequently help enhance other dimensions of social capital (Addae, 2020a). It is, thus, important that families ensure that they provide adolescents with the required amount of social support and autonomy, and control needed to enhance their FSB. In doing so, their familial social capital stock would increase and offer multiple benefits to other dimensions of their development. More importantly, a protective function of the family context and familial social capital against the negative effects of low socioeconomic conditions has been revealed in this study (Morgan, 2010; Bronfenbrenner & Morris, 2006). This reinforces the role of the family as a primary builder of psychosocial social capital-protective health assets for children and adolescents. In cases of poverty and harsh environmental situations, the family can help particularly, poor adolescents to build resilience by offering them a sense of belonging, social support and autonomy,

and control that enables them to find life meaningful and empower them to take charge of what matters positively for their well-being, health, and health behaviours irrespective of their poor circumstances (Addae & Kühner, 2022). The importance of the Ghanaian social fabric that enables especially extended family members to provide informal support, monetary and non-monetary safety nets for less privileged family members (children and adolescents) (UNICEF, 2015) should therefore be reinforced and upheld by families in Ghanaian societies. Where family members are incapable of providing adolescents with the needed economic support, appropriate national social protection, and community and school support initiatives should be utilised to empower them economically. This is a requirement because it is not in all situations that familial social capital can overcome the detrimental impact of socioeconomic status on all dimensions of adolescents' health and health behaviour outcomes as shown in this study.

Furthermore, this study has exposed that not only are some groups of adolescents being neglected in terms of sense of belonging, social support, and autonomy and control support in the family (Addae, 2020b), but they are also facing inequality concerning their health and health behaviours. More particularly, female adolescents, younger adolescents, junior high school adolescents, victims of school bullying, and adolescents in higher class levels are at risk of poor health and health risk behaviours. It is, therefore, necessary that parents and guardians pay more attention to these most vulnerable groups and establish positive communication with them (Inchley et al., 2016) to ascertain how they can be helped to achieve better health and health behaviour outcomes. Parents should give the needed support to meet the expected increase in adolescents' academic demands as they progress their studies and move to higher class levels. When needed, parents should also seek external support

for the health and mental health outcomes of this at-risk adolescent cohort to protect their successful transition through adolescence. Parents and guardians should likewise participate in community, school, and national parenting education programmes outlined in Ghana's Child and Family Welfare Policy (CFWP) (UNICEF, 2015) that can empower them to offer to the adolescent child the needed psychosocial resources for their health promotion.

Also, parents should note that religious affiliations play a role in their children's developmental outcomes, and as such consideration should be given to the impact that certain religious practices especially traditional practices can have on their children's health and health behaviour outcomes (Addae, 2020b). Not exposing their children to bad traditional practices such as child marriage and female genital circumcision that are harmful to their health and health behaviour can help protect their development.

Lastly, advocates, Non-governmental Organisations (NGOs), social services providers, public health intervention providers, school authorities, and community leaders should acknowledge the important function of the *family* as a health asset builder (Morgan, 2010; Inchley et al., 2016) and involve them in the making and implementation of health promotion programmes targeting the welfare of school-aged adolescents. Programmes that support positive parent-child relationships, as well as positive parenting styles can be implemented in the Ghana's CFWP to sensitise families, especially, parents and guardians about their role in preventing health inequalities among adolescents and promoting healthy adolescents in Ghana (UNICEF, 2015).

- **Implications at the School Level**

Next to the family, school is highly noted as a place where children and adolescents spend most of their time (Currie et al., 2000; OECD, 2016; Addae, 2020a). More especially when students live in school dormitories as in the case in this study, the school can have a tremendous influence on their developmental outcomes including health and health behaviours. As revealed in this study, the school context offers significant protective health assets comprising SSB and SAS for protecting adolescents' health status, self-confidence, experiences of multiple health complaints and psychosomatic symptoms as well as both health-promoting and health risk behaviours (Wit et al., 2011; OECD, 2016). School authorities and education policymakers are encouraged to promote school environments where adolescents can access social support from peers and teachers and perceive belongingness to their school, as well as perceive the power to influence and participate in decision making concerning their academic lives in their schools. When all these psychological needs are met, students can attain higher chances to achieve positive outcomes for their health and health behaviours.

One finding that needs careful consideration is that there is the possibility that when students are allowed to decide to engage in school physical activities, they may be less inspired to engage in physical activity in school. Therefore, while autonomy support promotion is necessary for Ghanaian adolescents (UNICEF, 2015; Addae, 2020a) and must be upheld in schools, teachers should encourage students to participate in physical activities such as participating in PE classes, recreational activities, and sports.

The negative consequences of bullying in schools have been reported to be very detrimental to the health status, mental health, health-promoting, and health risk

behaviours of school-aged adolescents irrespective of geographical contexts (Currie et al., 2012; Inchley et al., 2016). Education providers and policymakers should make it a priority to abolish bullying in schools to safeguard adolescents against health inequalities. Anti-bullying programmes can be implemented in schools to sensitise students about the negative consequences of bullying on the developmental outcomes of bullies and victims of bullying.

Young adolescents as well as students in junior high schools should be given exclusive attention regarding their health outcomes. These cohorts of adolescents appear to experience low self-confidence and high symptoms of poor mental health. It is possible that young adolescents are more likely to be bullied by their seniors or older adolescents in schools (Antiri, 2016) while junior high school students who live with their families are also likely to experience unpleasant events at home that can consequently affect their health outcomes (Addae, 2021). School authorities and teachers should hence offer attention to this age cohort and put in place appropriate measures to protect them against harsh life events within and outside the school that can harm their developmental outcomes. For instance, interventions and school programmes that prevent bullying, promote positive school experiences as well as positive parent-child relationships, and positive student-teacher relationships can safeguard the health and health behaviours of adolescents at school and home (Antiri, 2016; Inchley et al., 2016).

Class level increases with high experiences of multiple health and psychosomatic symptoms and lower self-confidence which can be related to a possible increase in academic-related stress for students as they move to higher classes and academic workload and pressure increases (Ottova-Jordan et al., 2002; Torsheim, 2003). Students should be sensitised about academic expectations as they move class

levels and be given the necessary mental health support to deal with possible academic-related stress that can harm their health outcomes.

Peer-based initiatives and interventions have become prominent in recent years as it has been observed that some young people tend to discuss their problems with peers than with parents. Peer-based programmes have hence been used as approaches in health promotion where young people offer informal support for other young people mainly, at the early stages of mental health interventions (mypeer.org.au, 2022). Peer-based programmes in schools such as peer mentoring, peer education, peer support, etc. can be promoted in schools to offer informal social support to students as a preventative strategy toward positive health status and mental health.

Lastly, while school social capital can protect in-school adolescents' developmental outcomes, for maximum positive outcomes for adolescent students, their socioeconomic conditions should not be ignored. Providing economic assistance to especially adolescents from low SES' households would be a vital step to empowering poor students to attain high academic well-being and consequently enhancing their health and healthy behaviours.

- **Implications at the Peer level**

The peer context was found to have crucial contributions to the health outcomes of school-aged adolescents (Morgan, 2010; Kühner et al., 2021). Thus, friendships were found to be important for protecting the self-confidence of adolescents as well as offering a pathway by which SES influences adolescents' experiences of multiple health complaints and psychosomatic symptoms. This study is unable to recommend the exact number of friends needed for positive health outcomes due to conflicting findings where a high number of friends are good for adolescents' self-confidence

building but bad for their experiences of symptoms of poor mental health (psychosomatic symptoms). Nevertheless, as revealed in the qualitative study, the fact remains that friendships and peer-support positively influence adolescents' health behaviours and health-related outcomes including happiness. In some instances, friendships enable poor adolescents to attain happiness and adopt positive behaviours despite their poor circumstances (Young et al., 2005; Samdal et al., 2000).

It is, therefore, important that adolescents socialise and establish quality friendships from which they can attain psychosocial resources needed to boost their satisfaction with their self-esteem and self-confidence and prevent experiences of multiple health and psychosomatic symptoms (Poulin & Chan, 2010). Thus, adolescents should focus on the quality of their peer-based social network rather than the size and make careful decisions when it comes to their selection of who to keep as a friend. What the family can do to help is that parents specifically, can offer social support in terms of advice and knowledge regarding their children's (adolescents) choices of friends. It is also important that intervention providers advocating for peer relationships among adolescents consider the influence that peer-based social networks can have on the mental health of adolescents in their programmes. Thus, they should adopt appropriate strategies to achieve positive impacts of friendships on adolescents' outcomes and prevent negative impacts.

- **Implications at the Community Level**

While the family and school are recognised as immediate surroundings of adolescents, it is of no doubt that *every child belongs to a community*. As explained by the bioecological system theory, the community exerts its influence on children often indirectly and the influence can be enormous (Bronfenbrenner, 1979). For instance, when adolescents perceive their communities as unsafe and unfriendly, it can hugely

influence how adolescents socialise and engage in their communities which poses consequences including physical inactivity and poor health outcomes. Both the qualitative and quantitative findings suggest the need for communities to be safe, provide recreational space or playgrounds, and offer autonomy support to adolescents for them to perceive a high sense of belonging to their communities. This can subsequently enhance their self-confidence, self-rated health, happiness, and physical activity, and reduce their experiences of poor mental health symptoms. For poor adolescents, community sense of belonging can protect their happiness and meaning in life irrespective of poverty effects. In cases of poor socioeconomic circumstances, community members can also offer high psychosocial support to especially poor adolescents to enhance their health and health-promoting outcomes. This can at least help bridge the gap in health and health behaviour outcomes between adolescents from high and low socioeconomic backgrounds. For adolescents from affluent families, community members can still offer them the psychosocial social support they require to attain more benefits to their health outcomes and health-promoting behaviours.

The communal saying that *it takes a village to raise a child* should be upheld and the social fabric of Ghanaian communities should not be disintegrated but rather reinforced to offer non-monetary safety nets for all adolescents in Ghana (UNICEF, 2015). Thus, community leaders, assemblymen/women, Chiefs, Queen Mothers, District Chief Executives, and council leaders in Ghana should recognise the importance of community members as crucial health asset builders for adolescents and empower them with the necessary community resources required to provide high amounts of social capital for children and adolescents in their communities. For instance, community programmes and interventions can be introduced to provide community centers and safe spaces where adolescents can seek support when needed

to eradicate socioeconomic inequalities in health and health behaviours. Community dialogues and sensitisation programmes as outlined in Ghana's CFWP (UNICEF, 2015) can also be reinforced to sensitise community members especially parents and guardians on appropriate caring, parenting, and support strategies for promoting positive health and health behaviours of all adolescents in their communities. Peer-based programs can also be implemented in communities to offer informal support to adolescents.

- **Implications at the National level**

The findings from this study have critical contributions to national social and public health policies that would be very valuable to how public health intervention and social services for young people especially school-aged adolescents are delivered in Ghana. More specifically, this thesis offers policy and intervention recommendations to reinforce existing strategies and address some of the overarching gaps identified in Ghana's Child and Family Welfare Policy (CFWP) and Ghana's National Health Policy (NHP). Generally, all the findings point toward the need for public health and social policy to acknowledge the importance of social determinants of health, well-being, and health behaviours as well as health asset and social approaches to addressing young people's health and health behaviours. The role of psychosocial social capital and socioeconomic status as critical social determinants of adolescents' health and health behaviours as highlighted in this thesis implies the need for social protection strategies as well as health promotion programmes/strategies to adopt integrated and inclusive approaches whereby the role of all agents in adolescents' social environment particularly the family, school, community, and peers and the adolescents themselves are involved in services delivery and implementation.

12.6.1 Implications for Ghana's Child and Family Welfare Policy

Many children and young people in Ghana experience multidimensional poverty with the majority comprising monetary poverty (NDCP, GSS, UNICEF, 2020). This thesis found that indeed, despite efforts by the government and several economic interventions from NGOs in Ghana, many adolescents in the study region are likely to experience monetary poverty considering their report of low material affluence and low SES. The impact that low socioeconomic conditions and low material affluence can have on school-aged adolescents' well-being, health, and health behaviours are found in this thesis to be substantial. This hence necessitates effective social protection policies and strategies that aim to address child and adolescent monetary inequality in Ghana as stipulated in Ghana's Child and Family Welfare Policy (CFWP). The CFWP was developed as a response to rising cases of child protection issues in Ghana due to the disintegration of the Ghanaian social fabric that incapacitated many families and caused especially many extended families to cease offering safety nets for poor children in Ghana. The CFWP seeks to *establish a well-structured and coordinated Child and Family Welfare system that promotes the well-being of children, prevents abuse, and protects children from harm*. To achieve the policy's aim, several guiding principles, objectives, and strategies have been stipulated for implementation and practice. One of the proposed strategies to achieve objective 1 (see UNICEF, 2015) is to provide *early interventions through social protection*. This strategy aims to provide social protection interventions aimed primarily at decreasing poverty among the extreme poor. While the policy acknowledges a direct link between social protection and reduced child protection risks (unnecessary separation from family; child marriage; and child labour), the importance of social protection to the well-being, health, and health behaviours are not highlighted as important components for the

promotion of social protection services for adolescents.

This thesis, hence, proposes the multidimensionality of the impact that poverty can have on adolescents and urge that approaches/strategies to tackle poverty should be holistic and evidence based. The policy is applaudable for making effort to enhance the economic empowerment of poor children and their families (Addae & Kühner, 2022). However, the lingering question remains that, despite the initiation of social interventions promoting economic empowerment through the provision of financial support such as cash transfers, school uniforms or school feeding programmes, etc., why are many Ghanaian adolescents still experiencing extreme poverty and socioeconomic inequalities and its associated negative impacts on their development? Perhaps, addressing poverty is not only about the provision of monetary incentives but also, empowering poor families with the needed assets to rise above poverty and protect their children from generational poverty. For instance, when family and community members are empowered with information and knowledge on the short- and long-term impacts of poverty on poor children's development including their well-being, health, and health behaviours, more privileged extended family members are more likely to be motivated and appreciate the importance of their services to poor family members. This would consequently help revitalise the traditional Ghanaian social fabric and safety nets offered by wealthier family members and provide socioeconomic support to children of poor family members. Such empowerment will consequently help to promote inclusive societies, where the economic development of young people especially, children and adolescents are of crucial importance at both the family and community level. Therefore, early intervention through social protection for poor families should not only focus on *economic empowerment* but also *social empowerment* of families and communities (Addae & Kühner, 2022).

Moreover, Ghanaian children grow up in closely linked extended family networks, with strong cultural traditions governing their birth, socialisation, and upbringing (UNICEF, 2015). These characteristics of Ghanaian children reveal the social fabric that surrounds every child right from birth; that a child belongs to a broader social network- family and not just the parents and siblings. The influences that the family can exert on a child's development can therefore be enormous either, positive or negative. As the family controls the socialisation of the child, the capacity of children and adolescents to freely socialise within and beyond the family context such as with peers, school, and community is determinant of the level of autonomy support and control given to adolescents by often adult family members. As revealed in this study, some adolescents lack autonomy and control to participate in decisions concerning their lives in the family. The consequences of lack of autonomy and control to the well-being (happiness), health, and health behaviours of school-aged adolescents have been confirmed in this study and various global studies including from Ghana (Morgan et al., 2012; Addae, 2020a; Kühner et al., 2021). The present study has also shown that lack of autonomy and control negatively affects the sense of belonging of adolescents to the family; and a lack of sense of belonging consequently leads to poor well-being, health, and poor health behaviours.

The implications of these revelations reflect the importance of autonomy and control which are classified as crucial psychosocial dimensions of familial social capital derived from the family's social fabric/relationships with Ghanaian adolescents (Addae, 2020a: b). The absence or low levels of this psychosocial social capital for some adolescents posits a lack of protective health assets and empowerment of adolescents to build resilience against harsh environmental stressors such as poverty and low socioeconomic conditions. These findings offer critical contributions to the

reinforcement of strategy 3.1 of Ghana's CFWP which seeks to *empower children and young people*. This strategy identifies children and young people as agents capable of initiating changes and, hence, advocates for the active participation of children and young people in addressing child protection issues (UNICEF, 2015). One proposed way by which the policy is to achieve this is through *promoting children's participation in decision-making processes at the family and community levels*. Despite the introduction of this strategy, many Ghanaian children and adolescents still lack autonomy and power to participate in decision-making processes concerning their lives at the family level. This gap between policy and practice could be related to the rooted hierarchical culture of the Ghanaian society which views children as of lower social status on the hierarchical ladder (Addae & Tang, 2021). Thus, there is a lack of coordination between policy and practice at especially the family level.

This thesis also recognises the effort of the policy to promote the empowerment of children and young people in Ghana to promote their participation in issues concerning child protection, however, the findings indicate that there are more substantial benefits to empowering children and young people than stipulated in the policy. Creating awareness of the significance of empowering children with autonomy and control could perhaps add more value to the strategy and stimulate implementation and practice. Thus, promoting evidence-based policy and interventions that create scientific awareness and sensitise families and communities on the health, health behaviours, and well-being implications of empowering children and young people with family autonomy and control could enlighten families on the extent of harm and damage they subject children to when they deny them the power to influence decision concerning their lives (Addae & Tang, 2021). As discovered in the thesis, not only is family autonomy and control important for the well-being, health and health

behaviours of adolescents but also can empower them to build resilience against the negative consequences of poverty and possibly break generational poverty (UNICEF, 2017). Employing a health asset perspective to the development and reinforcement of Strategy 3.2 could hence be a critical step towards implementation, practice, and achievement of objective 3 of the policy which seeks *to empower children and their families to better understand abusive situations and make choices to prevent and respond to situations of risk.*

Furthermore, the thesis has shown that a sense of belonging to the family and community as well as social support obtained from the family play critical roles in the well-being, health, and health behaviours of school-aged adolescents in Ghana. As mentioned above, every Ghanaian child belongs to both the nuclear and extended family. Therefore, in many communities, mainly in rural areas such as the study region, members of the wider extended family have a prominent role and are required to participate in the upbringing of children (UNICEF, 2015). As such, it is the role of the whole family and community to provide belongingness and social support to children and adolescents. One of the guiding principles of the CFWP is a *sense of belonging to family and community.* Although the policy recognises the family as a fundamental unit of society and is considered irreplaceable, it also recognises the value of belongingness not just to the family but also to the community as the foundation for cohesion and unity. The importance of a sense of belonging to children and young people's well-being, health, and health behaviours is not highlighted as a major necessity in the policy when these are all aspects of child welfare. It is hence not surprising that in practice, the policy seems to add little to promoting family and community sense of belonging among Ghanaian adolescents in especially the study region. The study revealed that more adolescents reported a low sense of belonging to

family and community than reported high belonging.

Furthermore, the thesis has established the importance of sense of belonging as a crucial health asset and dimensions of psychosocial social capital that can protect the well-being, health, and health behaviours of adolescents even during difficult life events such as poverty. There is, thus, the need for coordination between policy and practice to ensure that the guiding principle of the policy is effectively implemented and practiced by families and communities. One possible means to achieve this is through reinforcement of Strategy 3.2 which seeks to *empower families through social dialogue and change*. To achieve this strategy, the policy proposes *the promotion of community discussions, forums, and debates to empower families to prevent and take action against child protection concerns through an open, frank, balanced, and respectful dialogue*, among other initiatives. This strategic action can, thus, be utilised by social services providers as an opportunity to empower families and community members to realise the need for families and communities to put in place measures that ensure safe environments where adolescents can accumulate psychosocial social capital, can feel loved, cared for, supported, respected, and accepted for who they are. Also, the family and community's role as builders of protective health assets-psychosocial social capital (sense of belonging and social support) for children and young people to rise above challenging life conditions including poverty should be reiterated to ensure that families and communities do not abandon and neglect children and adolescents due to poverty and poor socioeconomic circumstances.

Overall, the thesis proposes the need for social empowerment alongside economic empowerment of especially school-aged adolescents in Ghana (Addae & Kühner, 2022). The role of social capital in empowering both adolescents and their families in building resilience against possible generational poverty can be asserted

from the study and global studies as reviewed in the thesis. The role of the family and community to mediate and moderate possible impacts of economic policies should be recognised in future developments of the CFWP so that communities and families especially parents would be empowered to build needed psychosocial resources for their children at the early stages of life.

12.6.2 Implications for Ghana's National Health Policy

In 2020, the Ministry of Health (MOH) of the Republic of Ghana released the revised version of the nation's National Health Policy (NHP). The goal of the policy is to *promote, restore and maintain good health for all people living in Ghana* (MOH, 2020pg16). While the policy reports that the health and well-being of the Ghanaian population have advanced in the last three decades, it concedes that overall, the improvement has been sluggish and below the preferred global targets. It further explains the reason for the lag in achieving global targets as *Ghana has not achieved the desired level of health because we have not adequately addressed, in a comprehensive manner, all the key determinants of health ((*MOH, 2020pg14). This statement implies that the health policy recognises the crucial role of determinants of health but as compared to other countries, the nation has not sufficiently implemented holistic and inclusive policies that address a broader range of all determinants of health in Ghana. Notwithstanding, a detailed evaluation of the new NHP depicts that, the role of particularly *psychosocial determinants* of health is not highlighted in the policy as recommended by the WHO Commission on Social Determinants of Health (WHO, 2008). The focus of the policy has been to address diseases, as the major health problems recognised in the country according to the policy are predominantly *communicable, maternal, perinatal, and nutritional diseases*. It appears from the policy outline that little consideration is given to psychological well-being and mental

health while obviously, these are of critical concern among young people in Ghanaian societies.

Consequently, the five proposed objectives of the NHP are *i. To strengthen the healthcare delivery system to be resilient; ii. To encourage the adoption of healthy lifestyles; iii. To improve the physical environment; iv. To improve the socioeconomic status of the population and v. To ensure sustainable financing for health* (MOH, 2020pg18). These objectives of the NHP confirm the claim of this thesis about the lack of social approaches to national health promotion policies and programmes in Ghana; thus, the NHP does not highlight the promotion of the social environment among its objectives. It is, hence, appropriate to say that the social well-being of the Ghanaian population is not highly acknowledged in the NHP. More particularly, this thesis has crucial contributions to the development, reinforcement, and implementation of *objective ii* of the NHP for especially young people. The purpose of *objective ii* is that *individual lifestyle behaviours such as diet and exercise; tobacco, alcohol, and drug use; as well as sexual activity*, (MOH, 2020pg24), etc., are observed to have a huge impact on health, mostly non-communicable diseases. All these lifestyle behaviours stated in the NHP comprise both health-promoting and health risk behaviours that indeed impact not only the population's health but also well-being. It is, therefore, important that determinants of these lifestyle behaviours are thoroughly addressed to prevent their prevalence and consequently protect especially the health of young people in Ghana.

It is extremely acknowledged that health lifestyles/behaviours are highly influenced by various agents in an individual's social environments, particularly within the microsystem and exosystem. Evidence suggests the role of family, school, peers, and community in influencing both health-promoting lifestyles and health risk

behaviours of especially adolescents. Nevertheless, the policy makes no clear provision for social approaches toward how this objective would be achieved despite outlining several strategies in the policy including *promoting healthy eating (strategy 1), promoting good nutrition (strategy 2), promoting physical activity (strategy 3), reduce the use and mitigate the negative impacts of substance abuse (strategy 4), and encourage and promote safe and responsible sexual behaviour (strategy 5)* (MOH, 2020pg25-26).

The present thesis argues that there is a huge gap in the development and delivery of the NHP considering that a holistic or inclusive approach to protecting the lifestyle/behaviour of the Ghanaian population is not emphasised in the policy. It is, hence, not startling that despite the existence of the policy, a high prevalence of health risk behaviours was recorded in Ghanaian junior and senior high schools in a national investigation set up by the Government of Ghana (Ministry of the interior, 2021). The present study has shown that undoubtedly, both health-promoting behaviours and health risk behaviours of Ghanaian young people can be protected by promoting psychosocial health assets provided by the social environment (families, communities, schools, and peers) even in a LMIC where many young people are faced with the detrimental consequences of poverty. This can be achieved by incorporating psychosocial social capital as elements in NHP objectives, strategies, and interventions. Psychosocial social capital characterised by a sense of belonging, social support and autonomy, and control as revealed in the present thesis is a protective health asset and can promote physical activity and reduce and prevent multiple health risk behaviours including alcohol use, cannabis use, sexual intercourse/activity, bullying, and tobacco intake among school-aged adolescents in Ghana. It can also promote positive health status, well-being, and positive mental health of school-aged

adolescents in Ghana. Based on these findings and existing literature, there is a possibility that all the strategies aligned under *objective ii* can be addressed by utilising diverse dimensions of social capital in interventions targeting the promotion of healthy lifestyle behaviours among young people in Ghana. It should, however, be noted that in the application of psychosocial social capital as components or complements in interventions, different dimensions of social capital offer different protection to different outcomes of health and health behaviours. Thus, research evidence should guide the application of psychosocial social capital in policy and intervention agendas.

Moreover, *objective iv* seeks to improve the socioeconomic status of the population to reduce the impacts of poverty on population health. It is, therefore, recommended that one approach by which the NHP can address the impact of socioeconomic status on a population's health, especially concerning young people is to incorporate psychosocial social capital either as a mediating or moderating element (protective health asset) in policy and intervention strategies targeting poor young people in the country. With that said, assessments of poverty for health policy and interventions must acknowledge that *social deprivation* is a mechanism by which poverty affects children's development. Therefore, *social deprivation* (lack of social relationships) especially within the family, school, community, and among peers must be recognised in multidimensional poverty assessments and health policy initiatives in Ghana. Lastly, the policy does not address sociodemographic disparities in the population's health which appears SDCs are not emphasised as key determinants of health in Ghana. This study should offer evidence for future development of health policies and strategies in Ghana to consider the huge impact that sociodemographic factors can have on the population's health promotion, especially, regarding young peoples' health and health behaviours. It is important that in some situations, health

strategies are tailored to meet the needs of specific population groups as not all population groups respond equally to the same public health interventions (Inchley et al., 2016). Health promotion strategies that would address disparities in young people's health and health behaviours related to gender, religion, family structure, age cohort, educational and class level, geographical location, and school bullying would make a massive contribution to tackling inequalities in health and health lifestyle/behaviour in Ghana. Overall, acknowledging psychosocial social capital as a critical social determinant of young people's lifestyle behaviours, well-being, and health outcomes in the NHP could offer a crucial break to combating the prevalence of unhealthy lifestyle behaviours, impacts of SES, and poor health outcomes in Ghanaian societies. It is, therefore, important that the multidimensionality of health and health behaviours be acknowledged in Ghana's NHP. For example, acknowledging the promotion of social well-being will stimulate an integrative and inclusive approach that incorporates appropriate social approaches that target all social environments/contexts of young people; and this should be acknowledged in future development and implementation of the NHP.

Asset-based approaches toward health promotion in Ghana must be advocated and implemented by the Ministry of Health. For instance, including a health asset approach as a component in policy development and implementation of future NHP can be adopted to consider the need for social empowerment for a healthy population, and not only focus on biomedical approaches to addressing health (diseases). Health asset approaches as well as social approaches to public health policy have been observed to be effective in health delivery in most high-income countries (Morgan et al., 2012; McPherson et al., 2013, Hopkins & Rippon, 2015; Von Hippel, 2018; Van

Bortel et al., 2019). The Ministry of Health in Ghana can, thus, learn lessons from these countries especially in addressing the health promotion of young people.

APPENDICES

APPENDIX I: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

Researcher: Evelyn Aboagye Addae
Sociology and / or Social Policy Dpt.
Lingnan University
8 Castle Peak Road, Tuen Mun, N.T. Hong Kong
evelynaboagyeaddae@LN.hk

This sheet provides information about a survey for a research project that you are kindly invited to participate in.

Title of Research: Pathways Toward Adolescents' Health and Well-being in Ghana: The Role of Socioeconomic Status and Social Capital.

Name(s) and affiliation(s) of researcher(s): Evelyn Aboagye Addae of the Department of Sociology and Social Policy, Lingnan University, Hong Kong.

Background: This study seeks to disentangle the clash between poverty and adolescents' health and well-being in developing countries by introducing another component – social capital (sense of belonging and autonomy and control) and testing its role as a potential health asset for enhancing the health and well-being of adolescents within a Ghanaian setting.

Purpose(s) of research: the main aim of the study is to understand the extent to which social capital and socioeconomic status affects the health and well-being of adolescents in Ghana as well as understand the extent to which social capital can

mediate the relationship between socioeconomic status and adolescents' health and well-being in the Upper West Region -Ghana.

Procedure of the research, what shall be required of each participant and approximate total number of participants that would be involved in the research: A simple random and purposive sampling method would be employed to select seven districts within the Upper West Region of Ghana; from which simple random sampling method would be used to select schools for a school-based survey- administering questionnaires to a sample size of 2100 adolescents of 13-18yrs. Participants are expected to participate in survey questionnaires and discussions.

Risk(s): The only risk of this study is related to the confidentiality of data obtained from respondents and respondents' time spent on this survey.

Benefit(s): This study is expected to contribute to policy recommendations for government agencies in developing countries especially Ghana, Non-Governmental organisations, and other social intervention providers interested in adolescents' health and well-being in developing countries based on the outcome of the study.

Confidentiality: Protecting the anonymity of all schools and adolescents involved would be assured. This survey is for academic purposes only and any data collected will be handled exclusively by the researcher and disposed of after use.

Voluntariness: Participation in the survey is voluntary, and respondents are assured of their anonymity.

Alternatives to participation: Respondents can choose not to answer certain questions and it would not affect them in any way.

Withdrawal from the research: Respondents can withdraw from the study or during the survey at any time without giving any reasons.

Consequences of Withdrawal: There is no penalty for participants who decide to withdraw from the study, however, their consent would be sought to use the information they have already provided.

Costs/Compensation: Participants would be compensated with stationary such as pencils for their time.

Contacts: Contact the researcher at ……. (Ghana) or …… (Hong Kong) for any enquiries. Or Contact research supervisors at: **……**

APPENDIX II: PARTICIPANT CONSENT FORM

Statement of person obtaining informed consent:

I have fully explained this research to the student and have given sufficient information about the study, including procedures, risks, and benefits, to enable the prospective participant to make an informed decision to or not to participate.

DATE:_____ NAME: _____

Statement of person giving consent:

I have read the information on this study/research or have had it translated into a language I understand. I have also talked it over with the interviewer to my satisfaction.

I understand that my participation is voluntary (not compulsory).

I know enough about the purpose, methods, risks, and benefits of the research study to decide that I want to take part in it.

I understand that I may freely stop being part of this study at any time without having to explain myself.

DATE: _____ SIGNATURE/THUMB PRINT: _____

APPENDIX III: INFORMATION AND CONSENT SHEET FOR PARENTS OR GUARDIANS OF STUDENTS

Researcher: Evelyn Aboagye Addae
Sociology and / or Social Policy
Lingnan University
8 Castle Peak Road, Tuen Mun, N.T.
Hong Kong

This form is to seek responses from parents/guardians who would not like their children to participate in a research survey conducted by a research student from Lingnan University in Hong Kong SAR in their schools. This survey involves adolescents (boys and girls) within the age range of 13-18yrs and will take place in seven selected Senior High Schools and seven Junior High Schools in the Upper West Region of Ghana. The participants would be required to answer questions about themselves relating to their schools and families. It is not compulsory for students to participate in the survey although the Regional Director of Education-Wa and the school headmasters have given permission for this study to take place in their selected schools. The participants have the rights to opt out of the survey at any time without giving any reasons. This survey is for academic purpose only and data would be handled only by the researcher and disposed of properly after use. The responses from the survey would be anonymous and the survey poses no harm to the participants.

Parents or guardians who would not permit their children to participate in this study should write their response

…….....

and return the form to the researcher through their child.

Parent or guardian's signature……

In case of any queries during and after the survey, parents / guardians can contact the researcher at: …….

Alternatively, parents / guardians can contact the research supervisors at Lingnan University. Supervisors' names and contact: ……

Thank you for your cooperation.

APPENDIX IV: SURVEY QUESTIONNAIRE

Respondents Sociodemographic Information. Please Tick One Box As Appropriate.

A) Gender	Male [ ] Female [ ]
B) Age	Write here……..
C) Name of school	……..
D) School residency	Day student [ ] Boarder [ ]
E) Class Level of Education	JHS 1 [ ] JHS 2 [ ] SHS 1 [ ] SHS 2 [ ]
F) Family structure	I live with: Single parent [ ] Both parents [ ] Stepparents [ ] Family relatives [ ] Other (specify)……
G) Religion	Christian [ ] Muslim [ ] Traditionalist [ ] Other (specify)……

This Section is About Your Opinion OF Your Health

(1) How do you describe your health in general? **(health is about your physical health, emotional or psychological health, and medical issues (sickness or diseases)).**

a. Excellent [ ] b. Very good [ ] c. Good [ ] d. Fair [ ] e. Poor [ ] f. Don't know [ ]

The Following Questions Are About Health Symptoms You Have Experienced in The Last Six Months. Please Tick One Box For Each Symptom As Appropriate.

(2) How often in the last six months have you experienced the following symptoms?	Everyday	Once a week	More than once a week	Never	Don't know
Headache	[ ]	[ ]	[ ]	[ ]	[ ]
Stomach ache	[ ]	[ ]	[ ]	[ ]	[ ]
Feeling low	[ ]	[ ]	[ ]	[ ]	[ ]
Feeling irritable or bad tempered	[ ]	[ ]	[ ]	[ ]	[ ]
Feeling nervous	[ ]	[ ]	[ ]	[ ]	[ ]
Difficulties in getting to sleep	[ ]	[ ]	[ ]	[ ]	[ ]
Feeling dizzy	[ ]	[ ]	[ ]	[ ]	[ ]

These Questions Are About Yourself. Please Tick One Box As Appropriate

(3) How satisfied are you with this thing in your life?	0 = Not at all satisfied 10 = Totally satisfied										
	0	1	2	3	4	5	6	7	8	9	10
Your self-confidence?											

These Questions Are About Your Relationship With Your family. Please Tick One Box As Appropriate.

(4) What is your answer to the following questions?	Very little	Somewhat (little)	Neutral	Quite a bit (much)	Very much	Don't know
How much do you feel your family understands you?	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
How much do you feel you and your family have fun together?	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
To what extent do you feel your family pays attention to you?	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
How much do you feel safe at home?	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

This Section Is About How Your Parents Allow You Freedom To Participate In Activities At Home. Please Tick One Box As Appropriate.

(5) How much do you agree with each of the following sentences?	Not true at all	Not true	True	Very true	Don't know
My parents allow me to decide things for myself.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents let me make my own plans for things I want to do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents let me do things my own way.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents let me decide for myself what to do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents allow me to make my own choices for things I want to do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents allow me to make choices whenever possible.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents give me choices about how to do things.	[ ]	[ ]	[ ]	[ ]	[ ]

My parents let me make some choices when it comes to things about me.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents encourage me to give my ideas and opinions when it comes to decisions about me.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents listen to my opinion or perspective when I've got a problem.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents do not get angry at me even when we disagree on something.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents talk to me about how I feel concerning the things they want me to do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents care about how I feel and what I think.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents try to understand me.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents try to understand how I feel even when we disagree.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents let me do things I think are important.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents accept me for myself.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents trust me.	[ ]	[ ]	[ ]	[ ]	[ ]

This Section Is About How Your Parents Expect You To Behave At Home. Please Tick One Box As Appropriate.

(6) How much do you agree with each of the following sentences?	Not true at all	Not true	True	Very true	Don't know
My parents are always telling me what to do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents boss me around.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents think there is only one right way to do things--their way.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents say "no" to everything.	[ ]	[ ]	[ ]	[ ]	[ ]
When my parents find out I did something they don't like, they just yell at me.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents expect too much of me in school.	[ ]	[ ]	[ ]	[ ]	[ ]

My parents try to control everything I do.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents insist I do things their way.	[ ]	[ ]	[ ]	[ ]	[ ]
My parents expect me to act right away when they make a request.	[ ]	[ ]	[ ]	[ ]	[ ]

These Questions Are About Feelings And Experiences Which Occur At One Time Or Another Between People And Their Family. Please Tick One Box As Appropriate.

(7) What is your response to each of the following sentences?	Yes	No	Don't know
My family gives me the moral support I need.	[ ]	[ ]	[ ]
I get good ideas about how to do things or make things from my family	[ ]	[ ]	[ ]
Members of my family are good at helping me solve problems.	[ ]	[ ]	[ ]
I have a deep sharing relationship with a number of members of my family.	[ ]	[ ]	[ ]
My family enjoys hearing about what I think.	[ ]	[ ]	[ ]
Members of my family shares many of my interests	[ ]	[ ]	[ ]
I rely on my family for emotional support.	[ ]	[ ]	[ ]
There is a member of my family I can go to if I was just feeling down without feeling funny about it later.	[ ]	[ ]	[ ]
My family is sensitive to my personal needs.	[ ]	[ ]	[ ]
I wish my family were much different.	[ ]	[ ]	[ ]
Most other people are closer to their family than I am.	[ ]	[ ]	[ ]
When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.	[ ]	[ ]	[ ]
My family and I are very open about what we think about things.	[ ]	[ ]	[ ]
I don't have a relationship with a member of my family that is as close as other people's relationships with family members.	[ ]	[ ]	[ ]
When I confide in members of my family, it makes me uncomfortable.	[ ]	[ ]	[ ]

These Questions Are About Your Feelings Toward Your School, Class mates and Teachers and autonomy In Your School. Please Tick One Box As Appropriate.

(8) To what extent do you agree with the following questions?	Strongly agree	Agree	Disagree	Strongly Disagree	Don't know
I feel like I belong at school.	[ ]	[ ]	[ ]	[ ]	[ ]
I make friends easily at school.	[ ]	[ ]	[ ]	[ ]	[ ]
Other students seem to like me.	[ ]	[ ]	[ ]	[ ]	[ ]

Most of the students in my class (es) are kind and helpful.	[ ]	[ ]	[ ]	[ ]	[ ]
If I have a problem at school my teachers will help me.	[ ]	[ ]	[ ]	[ ]	[ ]
My teachers care about me.	[ ]	[ ]	[ ]	[ ]	[ ]
I am encouraged to express my own views in class					
Our teachers treat us fairly					

These Questions Are About The Area Where You Live. Please Tick One Box As Appropriate

(9) How much do you agree with each of these sentences?	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
People stop to talk to one another in the street;	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
It is safe for young people to play outside during the day						
You can trust people round here	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
I could ask for help or favour from a neighbour;						
Most people around here would take advantage of you if they got the chance;	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
There are good places to spend your time						

These Questions Are About Your Friendships. Please Tick One Box As Appropriate.

(10) How many close male friends do you currently have?
a. None [ ] b. One [ ] c. Two [ ] d. Three or more [ ]

(11) How many close female friends do you currently have?
a. None [ ] b. One [ ] c. Two [ ] d. Three or more [ ]

These Questions Are About Some Behaviours That are Related To Your Health. Please Tick One Box As Appropriate. The next 3 questions ask about drug use. These include using marijuana (wee), amphetamines, cocaine, taawa, and inhalants.

Physical Activity

	Not physically active	A little physically active	Physically active	Very physically active	Don't know
(12) How physically active are you?	[ ]	[ ]	[ ]	[ ]	[ ]

(13) How old were you when you first used drugs?
a. I have never used drugs [ ] b. 7yrs old or younger [ ] c. 8 or 9yrs old [ ]
d. 10 or 11yrs old [ ] e. 12 or 13yrs old [ ] f. 14 or 15yrs old [ ]
g. 16 or 17yrs old [ ] h. 18yrs and above [ ] i. Don't know [ ]

(14) How old were you when you first tried tobacco (cigarette, pipe)?
a. I have never smoked tobacco [ ] b. 7yrs old or younger [ ] c. 8 or 9yrs old [ ]
d. 10 or 11yrs old [ ] e. 12 or 13yrs old [ ] f. 14 or 15yrs old [ ]
g. 16 or 17yrs old [ ] h. 18yrs or above [ ] i. Don't know [ ]

The next 3 questions ask about drinking alcohol. These include drinking Alomo bitters, Agya Appiah, Kasapreko etc. Drinking alcohol does not include drinking a few sips of wine for religious purposes. A "drink" is a glass of wine, a bottle of beer, a small glass of liquor, or a mixed drink.

(15) How old were you when you had your first drink of alcohol - more than few sips?
a. I have never had alcohol [ ] b. 7yrs old or younger [ ] c. 8 or 9yrs old [ ]
d. 10 or 11yrs old [ ] e. 12 or 13yrs old [ ] f. 14 or 15yrs old [ ]
g. 16 or 17yrs old [ ] h. 18yrs or above [ ] i. Don't know [ ]

Bullying occurs when a student or group of students say or do bad and unpleasant things to another student. It is also bullying when a student is teased a lot in an unpleasant way or when a student is left out of things on purpose. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.

(16) How often you been bullied in the previous 2 months? a. 0 times [ ] b. 1 time a week c. Two or 3 times a week [ ] d. several times a week [ ] d. Don't know [ ]

The Next 3 Questions Are About Sexual Behaviours That Relate To Health and Unintended Pregnancy

(17) How old were you when you had your first sexual intercourse?
a. I have never had sexual intercourse [ ] b. 7yrs old or younger [ ] c. 8 or 9yrs old [ ] d. 10 or 11yrs old [ ] e. 12 or 13yrs old [ ] f. 14 or 15yrs old [ ]

g. 16 or 17yrs old [ ] h. 18yrs or above [ ] i. Don't know [ ]

These Questions Are About Things That You And Your Family Have. Select One Or More Answers, And Provide Answers As Appropriate.

(18) Which of the following home appliances does your parent(s) or guardian have at home. You can choose more than one answer.

	Yes	No	Don't know
Computer	[ ]	[ ]	[ ]
Television	[ ]	[ ]	[ ]
Fridge/Freezer	[ ]	[ ]	[ ]
Radio	[ ]	[ ]	[ ]
Other	[ ]	[ ]	[ ]

If other, what? …….

(19) Do you have electricity at home?
a. Yes [ ] b. No [ ] c. Don't know [ ]

(20) How many cars does your family have / own?
a. 0 [ ] b. 1 [ ] c. 2 [ ] d. 3 or more [ ] e. Don't know

(21) Is the house you live in owned by your parent(s) or guardian?
a. Yes [ ] b. No [ ] c. Don't know [ ]

(22) Which of the following best describes the house where you live?
a. Mud/bamboo/ wood house with thatch roofing [ ] b. Mud/bamboo/wood house with sheet roofing [ ] c. Uncemented block house [ ] d. Blockhouse cemented and painted [ ]
e. Other, what?..... f. Don't know [ ]

(23) Do you have your own room? a. Yes [ ] b. No [ ]

QUALITATIVE STUDY-FOCUS GROUP DISCUSSION GUIDE

Introduction

Welcome to this discussion. This discussion is a follow-up to the questionnaire you answered few days ago. As you were informed during the first survey, you were selected to represent your school especially adolescents from your school who participated in answering the survey questionnaires. This discussion is about understanding adolescents' perspectives on what factors are important for the happiness of adolescents in this region. In this discussion we will talk about happiness of both rich and poor adolescents from this region. The quantitative study shows that some poor adolescents are happier than their rich counterparts while some rich adolescents are less happy than their poor counterparts. This is contrary to what I proposed in the study, so I want to know from you why this is the case for adolescents in this region. You can share your own experiences as well as experiences of your peers that you have observed in your homes, schools, and communities. You can say whatever is on your mind so far as it is related to adolescents well-being. You are not obliged to answer questions you don't feel comfortable answering. You can stop engaging in the discussion whenever you feel you want to.

With your permission, this discussion will be audio recorded and used for research purposes.

Questions

Two main questions will be used to direct the discussion. Follow up questions will be asked based on the responses of the adolescents to these questions.

- What are your opinions on why some “rich’’ adolescents in this region reported having low levels of happiness?
- What are your opinions on why some “poor’’ adolescents in this region reported having high levels of happiness?

APPENDIX V: SUMMARY OF MEASURES AND CODING OF VARIABLES (TABLE 4.1-TABLE 4.5)

Table 4.1 Health and Health Behaviour Indicators: Summary of Dependent Variables

Concept	Construct	Item /Question	Response and code
Health status	Self-rated health (SRH)	How do you describe your health in general?	5= Excellent; 4= Very good; 3= Good ; 2= Fair; 1= Poor Recoded as: 1 = High SRH (3-5) and 0 = Low SRH(1-2)
Mental health	Satisfaction with Self-confidence (SSC)	How satisfied are you with your self-confidence?	"0 = Not at all satisfied'' to "10= Totally satisfied'' Recoded as: Low SSC = 0-6 and High SSC = 7-10.
	Multiple health complaint/psychosomatic symptoms	How often have you experienced the following seven symptoms in the last six months? headache; stomachache; feeling low, irritable or bad-tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy	"1 = Everyday'', "2 = Once a week'', "3 = More than once a week, 4= Never'' Recoded as 0 = No (4) and 1 = Yes (1-3) (0-7 for items)

			Low MHPS = 0-3 and High MHPS = 4-7
Physical activity	Physical activity	How physically active are you?	"1 = Not physically active'', "2 = A little physically active'', "3 = Physically active'' and "4 = Very physically active'' Recoded as: Low PAS = 0-3 and High PAS= 4
Health risk behaviour	Multiple health risk behaviours (bullying, alcohol intake, cannabis use, sexual intercourse, and smoking	A composite score of the five items assessing experiences of each risk behaviour (GSHS, 2013)	"0= No'', "1= Yes'' Recoded as Low MHRB (none and single risk behaviour) = 0-1 and High MHRB (more than 1 risk behaviours) = 2-5.

Author's paradigm (2022) (Adopted from Currie et al., 2012; ISCI, 2012; GSHS, 2013; Inchley et al., 2016).

Table 4.2 Adolescents' Socioeconomic Status Indicators: Summary of Independent Variable

Concept	**Construct**	**Context**	**Item/Question**	**Response and Codes**

Socioeconomic status	Material affluence	Household assets	*Which of the following house appliances do your parents or guardians have at home? (Computer, Television, Fridge/Freezer, Radio).	1 = Yes, 0 = No
			*Do you have electricity at home?	1 = Yes, 0 = No
			*Do you have your own room?	1 = Yes, 0 = No
			*How many cars does your family have / own?	1 = 1 or more cars, 0 = No car
		Housing characteristics	*Which of the following best describes the house where you live? : a. mud/bamboo/wood house with thatch roofing b. Mud/bamboo/wood house with sheet roofing c. Uncemented block house d. Block house cemented and	1= Blocked house, 0 = Non-blocked house Recoded as low SES (0-3); medium SES (4-5) and

			painted e. Other……	high SES (6-8)

Author's paradigm (2022) (Adopted from Doku et. al, 2009)

Table 4.3 Social Capital Framework: Independent Variables: Sense of Belonging, Social Support, and Social Network

Context	Concept	Construct	Item /Question	Response and Codes
Family	Social capital	Family sense of belonging	What is your answer to the following questions: *How much do you feel your family understands you? *How much do you feel you and your family have fun together? *To what extent do you feel your family pays attention to you? *How much do you feel safe at home?	1= Very little, 2 = Somewhat little, 3 = Neutral, 4 = Quite a bit, 5 = Very much Recoded as: low FSB (4-12); medium FSB (13-18) and high FSB (19-20)
School	Social capital	School sense of belonging	*What is your answer to the following questions: *I feel like I belong at school. I make friends	1 = Strongly disagree, 2 = Disagree, 3 = Neutral

			easily at school. Other students seem to like me. *Most of the students in my class (es) are kind and helpful. *If I have a problem at school my teachers will help me. *My teachers care about me.	4 = Agree, 5 = Strongly agree Recoded as low SSB (6-21); medium SSB (22-26) and high SSB (27-30)
Community	Cognitive Social capital	Community sense of belonging	These questions are about where you live, please tick one box: *The community leaders and assembly men ask children and young people their opinion about things that are important to them * In my area there are enough places to play or to have a good time * I feel safe when I walk around in the area I live in	‘‘1= I do not agree’’, ‘‘2= agree a little bit’’, ‘‘3= agree somewhat’’, ‘‘4= agree a lot’’, ‘‘5= totally agree’’ Recoded as: low CSB = 3-6, medium CSB = 7-10 and high CSB = 11-15
Family	Cognitive Social capital	Family social support	My family gives me the moral support I need; I get good ideas	‘‘1=Yes’’, ‘‘0=No’’

			about how to do things or make things from my family; Members of my family are good at helping me solve problems; I have a deep sharing relationship with a number of members of my family; My family enjoys hearing about what I think; Members of my family shares many of my interests; I rely on my family for emotional support; There is a member of my family I can go to if I was just feeling down without feeling funny about it later; My family is sensitive to my personal needs; I wish my family were much different; Most other people are closer to their family than I am; When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable; My	Recoded as: low PSS-Fa = 0-8, medium PSS-Fa = 9-12 and high PSS-Fa = 13-15.

			family and I are very open about what we think about things; I don't have a relationship with a member of my family that is as close as other people's relationships with family members; When I confide in members of my family, it makes me uncomfortable.	
Peer	Structural social capital	Peer-based social network	*How many male close friends do you have? *How many female close friends do you have?	"0 = None'', "1= One'', "2= Two'', "3 = three or more''

Author's paradigm (2022) (Adapted from Morgan et al., 2012, GSHS, 2013; ISCI, 2013; King & Boyd, 2016; OECD, 2017)

Table 4.4 Social Capital Framework Cont'd: Independent Variables: Autonomy Support and Control

Context	Concept	Construct	Item / Question	Response and Codes
			My parents allow me to decide things for myself. My parents let me	

Family	Cognitive social capital	Family autonomy support	make my own plans for things I want to do. My parents let me do things my own way. My parents let me decide for myself what to do. My parents allow me to make my own choices for things I want to do. My parents allow me to make choices whenever possible. My parents give me choices about how to do things. My parents let me make some choices when it comes to things about me. My parents encourage me to give my ideas and opinions when it comes to decisions about me. My parents listen to my opinion or perspective when I've got a problem. My parents do not	1 = Not true at all 2 = Not true 3 = True 4 = Very true Recoded as: low FAS (18-42); medium FAS (43-52) and high FAS (53 -72)

			get angry at me even when we disagree on something. My parents talk to me about how I feel concerning the things they want me to do. My parents care about how I feel and what I think. My parents try to understand me. My parents try to understand how I feel even when we disagree. My parents let me do things I think are important. My parents accept me for myself. My parents trust me.	
Family	Cognitive social capital	Family control	My parents are always telling me what to do. My parents boss me around. My parents think there is only one right way to do things-- their way.	1 = Not true at all 2 = Not true 3 = True 4 = Very true

			My parents say "no" to everything. When my parents find out I did something they don't like, they just yell at me. My parents expect too much of me in school. My parents try to control everything I do. My parents insist I do things their way. My parents expect me to act right away when they make a request.	Recoded as: low FC (9-21); medium FC (22-26) and high FC (27-36)
School	Cognitive social capital	School autonomy support	My teachers listen to me and take what I say into account. At school, I have opportunities to make decisions about things that are important to me.	"Strongly disagree'' (1) to "Strongly agree'' (5). Recoded as: low SAS (2-5), medium SAS (6) and high

				SAS (7-10)

Author's paradigm (2022) (Adapted from ISCI, 2013; Marbelle & Grolnick, 2013)

Table 4.5 Sociodemographic Characteristics: Summary of Covariates

Context	Items	Response and Codes
Personal	Age	13 -18. Recoded as 1 = Young adolescents (13-14), 2 = Older adolescents (15-18)
	Gender	1 = Male, 2= Female
	Ethnicity	1 = 4 Northern tribes (Mole, Dagbon, Grusi, Lobi); 2 = Dagao/ Dagaaba, 3 = Sissala; 4 = Waala; 5 = Brifour; 6 = Other
	Marital status	1 = Never; 2 = Married; 3= Separated / broke up, 4 = Cohabiting; 5 = Other
	Religion	1= Christian; 2= Muslim; 3 = Traditionalist
	How do you describe your health in general? - Self-rated health	1 = Excellent; 2 = Very good; 3 = Good; 4 = Fair; 5 = Poor. Recoded as: 1= Low Rated health (4, 5); 2 = High rated health (1,2,3)
Family	Family structure- I live with?	1 = Single; 2 = Both parents; 3 = Stepparents; 4 = Family relatives; 5 = Other
	Family size - Number of siblings	0 = No siblings; 1 = 1 – 3 Siblings; 2 = 4 – 6 Siblings; 3 = 7 – 10 Siblings; 4 = Above 10 Siblings

School	Location of school- District	1 = Nadowli-Kaleo; 2 = Wa West; 3 = Wa Municipal; 4 = Jirapa; 5 = Lawra; 6 = Daffiama-Bussia; 7 = Wa East
	Class level	1 = SHS 1; 2 = SHS 2; 3 = JHS1; 4 = JHS 2
	School residency	1 = Day student; 2 = Boarder
	Bullying- Have you been bullied in the previous 2 months?	1 = Yes; 2 = No

Author's paradigm (2022)

PUBLISHED WORKS LINKED TO THIS THESIS

Below is a list of works that have been published from the broader project of which this thesis forms part. Sections of Chapter 1 to Chapter 4 and the Appendix have been published in these papers:

Addae, E. A., & Kühner, S. (2022). How Socioeconomic Status and Family Social Capital Matter for the Subjective Well-Being of Young People: Implications for the Child and Family Welfare Policy in Ghana. *Journal of Social Policy*, 1-24.

Addae, E.A. (2020). COVID-19 pandemic and adolescent health and well-being in sub-Saharan Africa: Who cares? *The International Journal of Health Planning and Management*.

Addae, E.A. (2020). The mediating role of social capital in the relationship between socioeconomic status and adolescent wellbeing: evidence from Ghana. *BMC public health*, *20*(1), pp.1-11.

Addae, E.A. (2020). Socioeconomic and demographic determinants of familial social capital inequalities: a cross-sectional study of young people in sub-Saharan African context. *BMC public health*, *20*(1), pp.1-14.

Addae, E. A. (2019). Pathways toward adolescents' wellbeing in Ghana: the role of socioeconomic status and social capital (MPhil dissertation).

BIBLIOGRAPHY

Abrutyn, S., & Mueller, A. S. (2014). Are suicidal behaviors contagious in adolescence? Using longitudinal data to examine suicide suggestion. *American Sociological Review*, *79*(2), 211-227.

Acheson, D., & Britain, G. (1998). *Independent inquiry into inequalities in health: report*. The Stationery Office.

ADDAE, E. A. (2019). Pathways toward adolescents' wellbeing in Ghana: the role of socioeconomic status and social capital.

Addae, E. A. (2020a). The mediating role of social capital in the relationship between socioeconomic status and adolescent wellbeing: evidence from Ghana. *BMC public health*, *20*(1), 1-11.

Addae, E. A. (2020b). Socioeconomic and demographic determinants of familial social capital inequalities: a cross-sectional study of young people in sub-Saharan African context. *BMC public health*, *20*(1), 1-14.

Addae, E. A., & Tang, L. (2021). How can I feel safe at home? Adolescents'experiences of family violence in Ghana. *Frontiers in public health*, *9*, 859.

Addae, E. A., & Kühner, S. (2022). How Socioeconomic Status and Family Social Capital Matter for the Subjective Well-Being of Young People: Implications for the Child and Family Welfare Policy in Ghana. *Journal of Social Policy*, 1-24.

AFMC. (2021). Part 1-Theory: Thinking about health. Chapter 1 concepts of health and illness. Definition of health. Association of Faculties of Medicine in Canada Primer on Population Health. Available at Definitions of Health | Primer on Public Health Population (archive.org)

Algren, M. H., Bak, C. K., Berg-Beckhoff, G., & Andersen, P. T. (2015). Health-risk behaviour in deprived neighbourhoods compared with non-deprived neighbourhoods: a systematic literature review of quantitative observational studies. *PloS one*, *10*(10), e0139297.

Amato, P. R. (2005). The impact of family formation change on the cognitive, social, and emotional well-being of the next generation. *Marriage and Child Well-being*, 75-96.

Amoah, P. A. (2017). Social capital, health literacy, and access to healthcare: a study among rural and urban populations in Ghana. PhD dissertation. Lingnan University.

Anderson, P., & Baumberg, B. (2006). Alcohol in Europe: a public health perspective. Brussels: European Commission.

Aneshensel, C. S., & Sucoff, C. A. (1996). The neighborhood context of adolescent mental health. *Journal of health and social behavior*, 293-310.

Anthony, J., Chen, C., & Storr, C. (2005). Influences of parenting practices on the risk of having a chance to try cannabis. Pediatrics, 115(6):1631–9.

Antiri, K. O. (2016). Types of Bullying in the Senior High Schools in Ghana. *Journal of education and practice*, *7*(36), 131-138.

Antonovsky, A. (1987). *Unraveling the mystery of health. How people manage stress and stay well.* Jossey-Bass, San Francisco.

Anotonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health*

Promotion International vol. 11, pp. 11-18.

Arcaya, M., Glymour, M. M., Christakis, N. A., Kawachi, I., & Subramanian, S. V. (2014). Individual and spousal unemployment as predictors of smoking and drinking behavior. *Social Science & Medicine*, *110*, 89-95.

Armstrong, D. (2009). Origins of the problem of health-related behaviours: a genealogical study. *Social studies of science*, *39*(6), 909-926.

Armstrong, E. A., Hamilton, L., & Sweeney, B. (2006). Sexual assault on campus: A multilevel, integrative approach to party rape. *Social problems*, *53*(4), 483-499.

Aslantürk, H., & Mavili, A. (2020). The sense of family belonging in university students from a single parent family compared with those from a two-biological-parent family. *Current Psychology*, *39*(6), 2026-2039.

Assis, S. G., Avanci, J. Q., & Oliveira, R. D. V. C. D. (2009). Socioeconomic inequalities and child mental health. *Revista de saúde pública*, *43*, 92-100.

Atorkey, P., & Owiredua, C. (2021). Clustering of multiple health risk behaviours and association with socio-demographic characteristics and psychological distress among adolescents in Ghana: a latent class analysis. *SSM-population health*, *13*, 100707.

Avery, L., & Lazdane, G. (2010). What do we know about sexual and reproductive health of adolescents in Europe? Eur J Contracept Reprod Health Care, 15(S2):S54–S66.

Bachman, J. O., Malley, P.M, Schulenberg, J.E, Johnston, L., Freedman-Doan, P., & Messersmith, E.E. (2008). The education-drug use connection. How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency. *Psychology Press*.

Ball, K., Jeffery, R. W., Abbott, G., McNaughton, S. A., & Crawford, D. (2010). Is healthy behavior contagious: associations of social norms with physical activity and healthy eating. *International Journal of Behavioral Nutrition and Physical Activity*, *7*(1), 1-9.

Baker, J. A., & Maupin, A. N. (2009). School satisfaction and children's positive school adjustment. *Handbook of positive psychology in the schools*, 189-196.

Bannink, R., Pearce, A., & Hope, S. (2016). Family income and young adolescents' perceived social position: associations with self-esteem and life satisfaction in the UK Millennium Cohort Study. *Archives of disease in childhood*, *101*(10), 917-921.

Barber, B.K. (1996). Parental psychological control: revisiting a neglected construct. Child Development. 67:3296–3319.

Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method. *Monographs of the Society for Research on Child Development*, i–147.

Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), Intrusive parenting: How psychological control affects children and adolescents (pp. 15-52). Washington, DC: *American Psychological Association.* Doi:10.1037/10422-002.

Barrera, M. (1986). "Distinctions between social support concepts, measures, and models". *American Journal of Community Psychology*. **14** (4): 413–445. doi:10.1007/bf00922627. S2CID 144597839

Baum, A., Garofalo, J. P., & Yali, A. M. (1999). Socioeconomic status and chronic stress: does stress account for SES effects on health?. *Annals of the New York academy of Sciences*, *896*(1), 131-144.

Baumeister, R.F. & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin. 1995; 117:497–529.

Ben-Arieh, A., & Frones, I. (2011). Taxonomy for child well-being indicators: A framework for the analysis of the well-being of children. *Childhood*, *18*(4), 460-476. DOI: 10.1177/0907568211398159.

Belon, A. P., Nieuwendyk, L. M., Vallianatos, H., & Nykiforuk, C. I. (2014). How community environment shapes physical activity: Perceptions revealed through the PhotoVoice method. *Social Science & Medicine*, *116*, 10-21.

Benson, P. L., Leffert, N., Scales, P. C., & Blyth, D. A. (2012). Beyond the "village" rhetoric:
Creating healthy communities for children and adolescents. *Applied Developmental Science*, *16*, 3-23.

Berndt, T. (2004). Children's friendships: Shifts over half a century in perspectives on their development and their effects. *Merril-Palmer Quarterly*, *50*, 206-224. doi:10.1353/mpq.2004.0014

Biddle, S. J., Ciaccioni, S., Thomas, G., & Vergeer, I. (2019). Physical activity and mental health in children and adolescents: an updated review of reviews and an analysis of causality. *Psychol. Sport Exerc.* 42, 146–155. doi: 10.1016/j. psychsport.2018.08.011

Boden, J.M., Fergusson, D.M. (2011). The short and long term consequences of adolescent alcohol use. In: Saunders J, Rey JM, editors. Young people and alcohol: impact, policy, prevention and treatment. Chichester: Wiley-Blackwell, 32–46.

Boe, T., Serlachius, A.S, Sivertsen, B., Petrie, K.J, & Hysing, M. (2018). Cumulative effects of negative life events and family stress on children's mental health: the Bergen Child Study. Soc Psychiatry Psychiatr Epidemiol, 53(1): 1–9. https://doi.org/10.1007/s00127-017-1451-4 PMID: 29090324

Bogot, T., Schmid, H., Gabhainn, S.N., Fotiou, A., & Vollebergh, W. (2006). Economic and cultural correlates of cannabis use among mid-adolescents in 31 countries.
Addiction 2006;101(2):241–51.

Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G. & Patton, G. (2007). Social and School Connectedness in Early Secondary School as Predictors of Late Teenage Substance Use, Mental Health, and Academic Outcomes. Journal of Adolescent Health 40(4), 357.e9-357.e18.

Boonen, A. (2016). Knowledge, illness perceptions and stated clinical practice behaviour in management of gout: a mixed methods study in general practice. *Clin Rheumatol*. doi: 10.1007/s10067-016-3212-2

Borawski, E. A., Ievers-Landis, C. E., Lovegreen, L. D., & Trapl, E. S. (2003). Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of adolescent health*, *33*(2), 60-70.

Bourdieu, P. (1986). The forms of capital. In: Richardson, JG., editor. Handbook of theory and research for the sociology of education. *Greenwood Press; New York*, 241-258.

Boyce, W. F., Davies, D., Gallupe, O., & Shelley, D. (2008). Adolescent risk taking, neighborhood social capital, and health. *Journal of Adolescent Health*, *43*(3), 246-252.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Brechwald, W.A, & Prinstein, M.J. (2011). Beyond homophily: a decade of advances in understanding peer influence processes. J Res Adolesc. 21:166-79.

Breidablik, H. J., Meland, E., & Lydersen, S. (2008). Self-rated health in adolescence: a multifactorial composite. *Scandinavian Journal of Public Health*, *36*(1), 12-20.

Brendgen, M., & Vitaro, F. (2008). Peer rejection and physical health problems in early adolescence. *Journal of Developmental & Behavioral Pediatrics*, *29*, 183-190.

Brener, N.D., Janet, L., Collins, J.L. (1998). Co-occurrence of health-risk behaviours among adolescents in the United States. J Adolesc Health 1998;22(3):209–13.

Brewer, M., & Kimbro, R. T. (2014). Neighborhood context and immigrant children's physical activity. *Social Science & Medicine*, *116*, 1-9.

Brewis, A. A. (2014). Stigma and the perpetuation of obesity. *Social science & medicine*, *118*, 152-158.

Briggs, N. E., & MacCallum, R. C. (2003). Recovery of weak common factors by maximum likelihood and ordinary least squares estimation. Multivariate Behavioral Research, 38, 25-56.

Brohi, K., Vulliamy, P., Marsden, M., Carden, R., Griffiths, M., et al. (2019). A Public Health
Approach to Knife Violence Reduction: Immunize, Protect & Rescue. London
Major Trauma System, p. v10.

Bronfenbrenner, U. (1979). The ecological system theory. *Handbook of Child Psychology.*

Bronfenbrenner, U., & Morris, P. (1998). The ecology of developmental processes. In R. M. Lerner (Ed.), Theoretical models of human development (Vol. 1, 5th ed., pp. 993–1028). New York: Wiley

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development." *Handbook of Child Psychology,1*.

Brosschot, J.F. (2002). Cognitive-emotional sensitization and somatic health complaints. *Scandinavian Journal of Psychology,* 43(2):113–121.

Buijs, T., Maes, L., Salonna, F., Damme, J. V., Hublet, A., Kebza, V., Costongs, C., Currie, C., & Clercq, B. D. (2016). The role of community social capital in the relationship between socioeconomic status and adolescent life satisfaction: mediating or moderating? Evidence from Czech data. *International Journal for Equity in Health, 15*(1)203. DOI 10.1186/s12939-016-0490-x

Businelle, M. S., Mills, B. A., Chartier, K. G., Kendzor, D. E., Reingle, J. M., & Shuval, K. (2014). Do stressful events account for the link between socioeconomic status and mental health?. *Journal of Public Health*, *36*(2), 205-212.

Bwalya, J. C., & Sukumar, P. (2019). The Relationship Between Social Capital and Children's Health Behaviour in Ireland. *Available at SSRN 3418320*.

Cabrera-Nguyen, P. (2010). Author guidelines for reporting scale development and validation results in the Journal of the Society for Social Work and Research. *Journal of the Society for Social Work and Research*, *1*(2), 99-103.

Cavalca, E., Kong, G., Liss, T., Reynolds, E. K., Schepis, T. S., Lejuez, C. W., & Krishnan- Sarin, S. (2013). A preliminary experimental investigation of peer influence on risk-taking among adolescent smokers and non-smokers. *Drug and Alcohol Dependence*, *129*,163-166.

Campbell, O. L., Bann, D., &Patalay, P. (2021). The gender gap in adolescent mental health: A cross-national investigation of 566,829 adolescents across 73 countries. *SSM-population health, 13*, 100742.

Carpiano, R. M. (2006). Towards a neighbourhood resource-based theory of social capital for health: Can Bourdieu and sociology help? *Social Science and Medicine, 62*(1),165–175.

Casadio P, Fernandes C, Murray RM, Di Forti M. Cannabis use in young people: the risk for schizophrenia. Neurosci Biobehav Rev. 2011;35(8):1779–87.

Catalano R.F., Oesterle S., Fleming C.B. & Hawkins J.D. (2004) The Importance of Bonding to School for Healthy Development: Findings from the Social Development Research Group. Journal of School Health 74(7), 252-261.

Cattell V. (2001) Poor People, Poor Places, and Poor Health: The Mediating Role of Social Networks and Social Capital. Social Science & Medicine 52(10), 1501-1516.

Caughy, M. O. B., Nettles, S. M., & O'Campo, P. J. (2008). The effect of residential neighborhood on child behavior problems in first grade. *American journal of community psychology*, *42*(1-2), 39.

Chan, D. S. (2001). Combining qualitative and quantitative methods in assessing

hospital learning environments. *Int J Nurs Stud*, *38*(4), 447-459.

Chaudry, A., & Wimer, C. (2016). Poverty is not just an indicator: the relaonship between income, poverty, and child well-being. Academic pediatrics, 16(3), S23-S29.

Chen, E., Matthews, K. A., & Boyce, W. T. (2002). Socioeconomic differences in children's health: how and why do these relationships change with age?. *Psychological bulletin*, *128*(2), 295.

Cheng H, Furnham A. Personality, peer relations, and self-confidence as predictors of happiness and loneliness. Journal of Adolescence. 2002 Jun 30;25(3):327-39.

Chester KL, Callaghan M, Cosma A, Donnelly P, Craig W, Walsh S et al. Cross-national time trends in bullying victimization in 33 countries among
children aged 11, 13 and 15 from 2002 to 2010. Eur J Public Health 2015;25(Suppl. 2):61–4.

Christensen, V. T., & Carpiano, R. M. (2014). Social class differences in BMI among Danish women: applying Cockerham's health lifestyles approach and Bourdieu's theory of lifestyle. *Social Science & Medicine, 112,* 12-21.

Clark, Z., & Eisenhuth, F. (2009): Beyond well-becoming, towards well-being. Young people and the capabilities approach. Paper for the Human Development and Capability Association International Conference.

Cockerham, W. C. (2005). Health lifestyle theory and the convergence of agency and structure. *Journal of health and social behavior*, *46*(1), 51-67.

Coleman, J. (1988). Social capital in the creation of human capital. *American journal of sociology*, *94*, S95-S120.

Colleaga. (2021). What are the determinants of health. https://www.colleaga.org/article/what-are-determinants-health
Collins, P. Y., Insel, T. R., Chockalingam, A., Daar, A., & Maddox, Y. T. (2013). Grand challenges in global mental health: integration in research, policy, and practice. *PLoS medicine*, *10*(4), e1001434.

Conner, M., & Norman, P. (2017). Health behaviour: Current issues and challenges. *Psychology & health*, *32*(8), 895-906.

Cosma A., Rhodes, G., Currie C., & Inchley J. (2016). Self-confidence and social well-being in Scottish adolescents. Technical Report.

Costa-Tutusaus, L., & Guerra-Balic, M. (2016). Relationship between healthy lifestyle and sociodemographic factors in adolescents in catalonia: Application of VISA-TEEN Questionnaire. *Plos one*, *11*(9), e0163381.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, *10*(1), 7.

County Health Rankings (2021). Health Behaviours. Retrieved from

https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/health-behaviors#:~:text=Health%20behaviors%20are%20actions%20individuals,intake%2C%20and%20risky%20sexual%20behavior.

Creswell, J. W. (2006). 04-Creswell (Designing)-45025.qxd. Choosing a mixed methods design. Chapter four pg 58. Retrieved from

https://www.sagepub.com/sites/default/files/upm-binaries/10982_Chapter_4.pdf

Creswell, J. W., & Plano, C. VL (2011). Designing and conducting mixed method research. *Thousand Oaks, CA*.

Creswell, J. W., Plano Clark, V. L., Guttman, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs in Tashakkori A and Teddlie C eds Handbook of mixed methods in social and behavioural research.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.

Curtis L.J., Dooley M.D.,&Phipps S.A. (2004) Child Well-Being and Neighbourhood Quality: Evidence from the Canadian National Longitudinal Survey of Children and Youth. Social Science & Medicine 58(10), 1917-1927.

Currie, C Hurrelmann, K S e t t e r t o b u l t e ,W, Smith, R, Todd J. (2000). Health Behaviour in School-aged Children: A WHO Cross-National Study (HBSC)International Report. Health and Health among young people. WHO Policy Series: Health Policy for children and adolescents issue 1, International Report

Currie, C., Zanotti, C., Morgan, A., Currie, D., De Looze, M., Roberts, C., ... & Barnekow, V. (2012). Social determinants of health and well-being among young people. *Health Behaviour in School-aged Children (HBSC) study: International report from the 2009/2010 survey. Copenhagen, WHO Regional Office for Europe (Health Policy for Children and Adolescents, No. 6).*

Dahl, E., & Malmberg-Heimonen, I. (2010). Social inequality and health: the role of social capital. *Sociology of health & illness, 32*(7), 1102-1119.
Dahlgren, G., & Whitehead, M. (2006). European strategies for tackling social inequities in health: Levelling up Part 2.

Darling, N. (2007). Ecological systems theory: The person in the center of the circles. *Research in human development, 4*(3-4), 203-217.

De Allegri, M., Tiendrebeogo, J., Muller, O., Ye, M., Jahn, A., & Ridde, V. (2015). Understanding home delivery in a context of user fee reduction: a crosssectional mixed methods study in rural Burkina Faso. *BMC Pregnancy Childbirth, 15*(1), 330. doi:10.1186/s12884-015-0764-0

De Clercq B., Vyncke V., Hublet A., Elgar F.J., Ravens-Sieberer U., Currie C., Hooghe M., Ieven A.,&Maes L. (2011). Social Capital and Social Inequality in Adolescents' Health in 601 Flemish Communities: A Multilevel Analysis. Social Science & Medicine 74(2).

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry, 11*(4), 227-268.

de Matos MG, Barrett P, Dadds M, Shortt A. Anxiety, depression and peer relationships during adolescence: results from the Portuguese national health behaviour in school-aged children survey. Eur J Psychol Educ. 2003;18(1):3–14.

Diener, E. (1984). Subjective well-being. *Psycholical Bulletin, 95*(3), 542-575

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect.
Journal of Personality and Social Psychology, 47(5), 1105-1117.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three
decades of progress. *Psychological Bulletin, 125*(2), 276-302

Diener, E., & Oishi, S. (2004). Are Scandinavians happier than Asians? Issues in comparing
nations on subjective well-being. In F. Columbus (Ed.), *Politics and Economics of Asia*. Hauppauge, NY: Nova Science Publishers.

Dijkstra, T. K. (1992). On statistical inference with parameter estimates on the boundary of the parameter space. *British Journal of Mathematical and Statistical Psychology, 45*(2), 289-309.

Donev, D. (2014). Toward the fourth dimension of health–the spiritual health. *Vox Medici, 23*, 318-21.

Due P et al. and the HBSC Bullying Working Group. Bullying and symptoms among school-aged children: international comparative cross sectional
study in 28 countries. *European Journal of Public Health*, 2005, 15(2):128–132.

Dufur, M. J., Parcel, T. L., Hoffmann, J. P., &Braudt, D. B. (2016). Who has the advantage? Race and sex differences in returns to social capital at home and at school. Research in social stratification and mobility, 45, 27-40.

Eccles JS, Early D, Fraser K, Belansky E, McCarthy K. The relation of connection, regulation, and support for autonomy to adolescents' functioning. Journal of Adolescent Research. 1997; 12:263–286.

Elgar, F. J., Davis, C. G., Wohl, M. J., Trites, S. J., Zelenski, J. M., & Martin, M. S. (2011). Social capital, health and life satisfaction in 50 countries. *Health & Place*, *17*(5), 1044-1053.

Ellen I.G., Mijanovich T., &Dillman K.-N. (2001) Neighborhood Effects on Health: Exploring the Links and Assessing the Evidence. Journal of Urban Affairs 23(3-4), 391-408.

Elgar, F. J., Pförtner, T. K., Moor, I., De Clercq, B., Stevens, G. W., & Currie, C. (2015). Socioeconomic inequalities in adolescent health 2002–2010: a time-series analysis of 34 countries participating in the Health Behaviour in School-aged Children study. *The Lancet*, *385*(9982), 2088-2095.

Elgar, F. J., Trites, S. J., & Boyce, W. (2010). Social capital reduces socio-economic differences in child health: evidence from the Canadian Health Behaviour in School-Aged Children study. *Canadian Journal of Public Health/Revue Canadienne de Sante'e Publique*, S23-S27.

Engels D, Thielebein C. Zusammenhang von sozialerSchicht und Teilnahmean Kultur-, Bildungs- und Freizeitangeboten fu¨ r Kinder und Jugendliche. (2011). Association between social class and participation in cultural, education and leisure programs for children and adolescents. Ko¨ ln.

Engels RCME, ter Bogt T. Influences of risk behaviours on the quality of peer relations in adolescence. J Youth Adolesc. 2001;30(6):675–95.

Ennett, Susan T., Karl E. Bauman, Andrea Hussong, Rob ert Faris, Vangie A. Foshee, and Li Cai. 2006. "The Peer Context of Adolescent Substance Use: Find ings from a Social Network Analysis." Journal of Research on Adolescence 16:159-86.

Eriksson, U., Hochwälder, J., Carlsund, Å., & Sellström, E. (2012). Health outcomes among Swedish children: the role of social capital in the family, school and neighbourhood. *Acta Paediatrica*, *101*(5), 513-517.

Ehsan, A., Klaas, H. S., Bastianen, A., & Spini, D. (2019). Social capital and health: a systematic review of systematic reviews. *SSM-population health*, *8*, 100425.

Factor, R., Williams, D. R., & Kawachi, I. (2013). Social resistance framework for understanding high-risk behavior among nondominant minorities: Preliminary evidence. *American journal of public health*, *103*(12), 2245-2251.

Fairchild, A. J., & MacKinnon, D. P. (2009). A general model for testing mediation and moderation effects. *Prevention science*, *10*(2), 87-99.

Feldstein Ewing SW, Sakhardande A, Blakemore S. The effect of alcohol consumption on the adolescent brain: a systematic review of MRI and fMRI studies of alcohol-using youth. Neuroimage Clin. 2014;5:420–37.

Fergus S, Zimmerman MA, Caldwell CA. Growth trajectories of sexual risk behavior in adolescence and young adulthood. Am J Public Health 2007;97(6):1096–101.

Fletcher, A. (2015). School culture and classroom climate. In Prevention Science in School Settings (pp. 273-285). Springer, New York, NY.

Fismen, A. S., Samdal, O., & Torsheim, T. (2012). Family affluence and cultural capital as indicators of social inequalities in adolescent's eating behaviours: a population-based survey. *BMC public health*, *12*(1), 1-9.

Frankl, V. (2011). Man's search for meaning. Boston, MA: Beacon Press; 2006. (1946).
Maslow A. Toward a psychology of being. New York: Van Nostrand; 1968. (1962)
Van Deurzen E. Existential counseling and psychotherapy in practice. London: Sage.

Freeman, J., King, M., & Sana'a Abu Eid, A. H. (2016). Health and Health-Related Behaviours among Young People: Yukon Report.

Friestad, C., & Klepp, K. I. (2006). Socioeconomic status and health behaviour patterns through adolescence: Results from a prospective cohort study in Norway. *The European Journal of Public Health*, *16*(1), 41-47.

Furstenberg FF Jr. Sociology of adolescence and youth in the 1990s: A critical commentary. Journal of Marriage and the Family. 2000; 62:896–910.

Garcia, A. C., Sousa, R., Varela, A., & Monteiro, L. (2021). Bullying, physical activity, and body image among Brazilian students. *Journal of health psychology*, *26*(10), 1661-1673.

García-Hermoso, A., Hormazabal-Aguayo, I., Oriol-Granado, X., Fernández-Vergara, O., & del Pozo Cruz, B. (2020). Bullying victimization, physical inactivity and sedentary behavior among children and adolescents: a meta-analysis. *International journal of behavioral nutrition and physical activity*, *17*(1), 1-10.

Garson, D. (2010). Statnotes: Topics in Multivariate Analysis: Factor Analysis. Retrieved from http://faculty.chass.ncsu.edu/garson/pa765/statnote.htm

GCPH. (2013). Social capital and the health and well-being of children and adolescents. Glasgow Centre for Population Health briefing paper 38 finding series.

Gerber, M., & Puhse, U. (2008)."Don't crack under pressure!" Do leisure time physical activity and self-esteem moderate the relationship between school-based

stress and psychosomatic complaints? *Journal of Psychosomatic Research*, 65(4):363–369.

George, L. K., Okun, M. A., & Landerman, R. (1985). Age as a moderator of the determinants
of life satisfaction. *Research on Aging, 7*(2), 209-233.

GhanaWeb. (2017). List of new districts and municipalities created by government. Retrieved from https://www.ghanaweb.com/GhanaHomePage/NewsArchive/List-of-new-districts-and-municipalities-created-by-Government-601562#:~:text=Government%20has%20created%2038%20new,Thursday%2C%20November%2016%2C%202017

Gianfredi, V., Blandi, L., Cacitti, S., Minelli, M., Signorelli, C., Amerio, A., et al. (2020). Depression and objectively measured physical activity: a systematic review and meta-analysis. *Int. J. Environ. Res. Public Health* 17:3738. doi: 10.3390/ijerph17103738

Giffith-Lendering, M.F., Huijbregts, S.C., Mooijaart, A., Vollebergh, W.A., & Swaab, H. (2001). Cannabis use and development of externalizing and internalizing
behavior problems in early adolescence: a TRAILS study. Drug Alcohol Depend, 116(1–3):11–7.

Glasscock, D. J., Andersen, J. H., Labriola, M., Rasmussen, K., & Hansen, C. D. (2013). Can negative life events and coping style help explain socioeconomic differences in perceived stress among adolescents? A cross-sectional study based on the West Jutland cohort study. *BMC public health*, *13*(1), 1-13.

Glorioso, V., & Pisati, M. (2014). Socioeconomic inequality in health-related behaviors: a lifestyle approach. *Quality & Quantity*, *48*(5), 2859-2879.

Godeau, E., Vignes, C., Duclos, M., Navarro, F., Cayla, F., & Grandjean, H. (2008). Factors associated with early sexual initiation in girls: French data from the international Health Behavior in School-aged Children (HBSC)/WHO survey. *Obstetrics Gynecology & Fertility* , *36* (2), 176-182.

Goodman, E., Amick, B. C., Rezendes, M. O., Tarlov, A. R., Rogers, W. H., & Kagan, J. (1997). Influences of gender and social class on adolescents' perceptions of health. *Archives of pediatrics & adolescent medicine*, *151*(9), 899-904.

Gore, F. M., Bloem, P. J., Patton, G. C., Ferguson, J., Joseph, V., Coffey, C., ... & Mathers, C. D. (2011). Global burden of disease in young people aged 10–24 years: a systematic analysis. *The Lancet*, *377*(9783), 2093-2102.

Goodenow, C. (1992). Strengthening the links between educational psychology and the study of social contexts. Educational Psychologist, 27:177–196.

Granovetter, M.S. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Social Theory* 1: 201-233.

Grob, A., Lüthi, R., Kaiser, F. G., Flammer, A., et al. (1991). Berner FragebogenzumWohlbefindenJugendlicher (BFW) [The Bern Subjective Well-Being Questionnaire for Adolescents (BFW)]. *Diagnostica, 37*(1), 66–75.

GSHS. (2013). Global school-based student health survey (GSHS) final 2013 core questionnaire modules.

GSS. (2012). National analytical report. Ghana Statistical Service (GSS) 2010 Population and housing census report in Ghana.

GSS. (2010). 2010 Population and housing census report in Ghana.

GSS. (2013a). Children, adolescents and young people in Ghana. Ghana Statistical Service (GSS) 2010 Population and housing census report in Ghana.

GSS. (2013b). Regional analytical report-Upper West Region. Ghana Statistical Service (GSS) 2010 population and housing census report in Ghana.

GSS. (2013c). National analytical report. Ghana Statistical Service (GSS) 2010 Population and housing census report in Ghana.

GSS. (2014). Ghana living standard survey round 6 (GLSS6): Poverty profile in Ghana – 2005-2013. *Ghana Statistical Service (GSS).*

GSS. (2015). Ghana poverty mapping report. *Ghana Statistical Service (GSS).*

Gurung, R.A.R. (2006). "Coping and Social Support". *Health Psychology: A Cultural Approach*. Belmont, CA: Thomson Wadsworth. pp. 131–171.

Gururaj, G. (2013). Injury prevention and care: an important public health agenda for health, survival and safety of children. *The Indian Journal of Pediatrics*, *80*(1), 100-108.

Hallal, P.C., Andersen, L.B., Bull, F.C., Guthold, R., Haskell, W., Ekelund, U. (2012). Global physical activity levels: surveillance progress, pitfalls, and prospects. Lancet, 380(9838):247–57.

Halpern, D. (2005). Social capital. Cambridge: Polity Press.

Hanson, K., T. (2005). Landscapes of survival and escape: social networking and urban livelihoods in Ghana. *Environment and Planning A* 37: 1291-1310.

Hanson, M. D., & Chen, E. (2007). Socioeconomic status and health behaviors in adolescence: a review of the literature. *Journal of behavioral medicine*, *30*(3), 263.

Harpham, T. (2008). The measurement of community social capital through surveys. *Social capital and health* (pp. 51-62). Springer, New York, NY.

Harpham, T., Grant, E., & Rodriguez, C. (2004). Mental health and social capital in Cali, Colombia. *Social science & medicine*, *58*(11), 2267-2277.

Harper, C., & Marcus, R. (1999). Child poverty in sub-Saharan Africa. *Africa Poverty Status Report. SC UK, London*.

Harrison, D., Ziglio, E., Levin. L., & Morgan, A. (2004). Assets for Health and Development: developing a conceptual framework. European Office for investment for Health and Development. World Health Organisation, Venice.

Harrison, A., Short, S. E., & Tuoane-Nkhasi, M. (2014). Re-focusing the gender lens: caregiving women, family roles and HIV/AIDS vulnerability in Lesotho. *AIDS and Behavior*, *18*(3), 595-604.

Hawkley, L. C., & Capitanio, J. P. (2015). Perceived social isolation, evolutionary fitness and health outcomes: a lifespan approach. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *370*(1669), 20140114.

Haas, S. A., Schaefer, D. R., & Kornienko, O. (2010). Health and the structure of adolescent social networks. *Journal of Health and Social Behavior*, *51*(4), 424-439.

Haas, S. A., & Schaefer, D. R. (2014). With a little help from my friends? Asymmetrical social influence on adolescent smoking initiation and cessation. *Journal of health and social behavior*, *55*(2), 126-143.

Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child development*, *67*(1), 1-13.

Harel-Fisch, Y., Walsh, S. D., Fogel-Grinvald, H., Amitai, G., Pickett, W., Molcho, M., ... & Craig, W. (2011). Negative school perceptions and involvement in school bullying: A universal relationship across 40 countries. *Journal of adolescence*, *34*(4), 639-652.

Haas, S. A., Schaefer, D. R., & Kornienko, O. (2010). Health and the structure of adolescent social networks. *Journal of Health and Social Behavior*, *51*(4), 424-439.

Hauser, S.T., Powers, S.I., Noam, G.G., Jacobson, A.M., Weiss, B., & Follansbee, D.J. (1984). Familial contexts of adolescent ego development. *Child Development*, 55:195–213.

Haynie, D. L., Nansel, T., Eitel, P., Crump, A. D., Saylor, K., Yu, K., & Simons-Morton, B. (2001). Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *The Journal of Early Adolescence*, *21*(1), 29-49.

Headey, B., Holmström, E., & Wearing, A. (1984). Well-being and ill-being: Different dimensions?. *Social indicators research*, *14*(2), 115-139.

Heaney, C.A., & Israel, B.A. (2008). "Social networks and social support". In Glanz, K.; Rimer, B.K.; Viswanath, K. (eds.). *Health Behavior and Health Education: Theory, Research, and Practice* (4th ed.). San Francisco, CA: Jossey-Bass.

Herman, M.R., Dornbusch, S.M., Herron, M.C., & Herting, J.R. (1997). The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *Journal of Adolescent Research*, 12:34–67.

Hiscock, R., Bauld, L., Amos, A., Fidler, J.A., & Munafo, M. (2012). Socioeconomic status and smoking: a review. *Ann NY Acad Sci*, 1248:107–23.

Hofstede, G. (2001). *Culture's consequences: comparing values, behaviours, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Hopkins, T. & Rippon, S. (2015). Head, hands and heart: asset-based approaches in health care. *London: Health Foundations*.

Hopkins, T. & Rippon, S. (2015). Head, hands and heart: asset-based approaches in health care. *London: Health Foundations*.Pg3.

Hudson, J., & Kühner, S. (2016). *Fairness for Children: A league table of inequality in child well-being in rich countries*. UNICEF Office of Research.

Huibregtse, B.M., Bornovalova, M.A., Hicks, B.M., McGue, M., & Iacono, W. (2011). Testing the role of adolescent sexual initiation in later-life sexual risk behavior: a longitudinal twin design. Psychol Sci, 22(7):924–33.

Hume, C., Jorna, M., Arundell, L., Saunders, J., Crawford, D., & Salmon, J. (2009). Are children's perceptions of neighbourhood social environments associated with their walking and physical activity?. *Journal of Science and Medicine in Sport*, *12*(6), 637-641.

Hurley, V. (2010). Bullying in Physical Education: Its prevalence & impact on the intention to continue secondary school physical education.

Idler, E. L., & Angel, R. J. (1990). Self-rated health and mortality in the NHANES-I Epidemiologic Follow-up Study. *American journal of public health*, *80*(4), 446-452.

Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: a review of twenty-seven community studies. *Journal of health and social behavior*, 21-37.

Inchley, J., Currie, D., Young, T., Samdal, O., Torsheim, T., Augustson, L., Mathison, F., Aleman-Diaz, A., Molcho, M., Weber, M., & Barnekow, V. (2016). *Growing up unequal: Gender and Socioeconomic Differences in Young People's Health and Well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey*. Copenhagen, *WHO Regional Office for Europe, (Health Policy for Children and Adolescents, No. 7).*

Jackson, C., Sweeting, H., & Haw, S. (2012). Clustering of substance use and sexual risk behaviour in adolescence: analysis of two cohort studies. *BMJ open*, *2*(1), e000661.

Jadad, A.R. (2013). "On Living a Long, Healthy, and Happy Life, Full of Love, and with no Regrets, until Our Last Breath". *Verhaltenstherapie*. **23** (4): 287–89. doi:10.1159/000357490.

Jadad, A. R. (2016). Creating a pandemic of health: What is the role of digital technologies?. *Journal of Public Health Policy*, *37*(2), 260-268.

Jarvis, M.J. (2004). Why people smoke. *BMJ*, 328(7434):277–279.

Jessor, R, & Turbin, M.S. (2014). Parsing protection and risk for problem behavior versus pro-social behavior among US and Chinese adolescents. *Journal of youth and adolescence*, 43(7):1037–1051.

Joffer, J., Flacking, R., Bergström, E., Randell, E., & Jerdén, L. (2019). Self-rated health, subjective social status in school and socioeconomic status in adolescents: a cross-sectional study. *BMC public health*, *19*(1), 1-8.

Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2016). Monitoring the Future national survey results on drug use, 1975-2015: Overview, key findings on adolescent drug use. *Institute for Social Research*.

Kabiru, C. W., Izugbara, C. O., & Beguy, D. (2013). The health and well-being of young people in sub-Saharan Africa: an under-researched area? *BMC international health and human rights*, *13*(1), 11.

Kalman, M., Inchley, J., Sigmundova, D., Iannotti, R. J., Tynjälä, J. A., Hamrik, Z., ... & Bucksch, J. (2015). Secular trends in moderate-to-vigorous physical activity in 32 countries from 2002 to 2010: a cross-national perspective. *The European Journal of Public Health*, *25*(suppl_2), 37-40.

Kalousova, L., & Burgard, S. A. (2014). Unemployment, measured and perceived decline of economic resources: contrasting three measures of recessionary hardships and their implications for adopting negative health behaviors. *Social Science & Medicine*, *106*, 28-34.

Kaplan, G. A., & Camacho, T. (1983). Perceived health and mortality: a nine-year follow-up of the human population laboratory cohort. *American journal of epidemiology*, *117*(3), 292-304.

Karademas, E. C., Peppa, N., Fotiou, A., & Kokkevi, A. (2008). Family, school and health in children and adolescents: findings from the 2006 HBSC study in Greece. *Journal of Health Psychology*, *13*(8), 1012-1020.

Kaltiala-Heino, R., Rimpelä, M., Rantanen, P., & Rimpelä, A. (2000). Bullying at school—an indicator of adolescents at risk for mental disorders. *Journal of adolescence*, *23*(6), 661-674.

Kawachi, I., & Berkman, L. (2000). Social cohesion, social capital, and health. *Social epidemiology*, *174*(7), 290-319.

Kawachi I., Kennedy B.P., & Glass R. (1999) Social Capital and Self-Rated Health: A Contextual Analysis. *American journal of public health*, 89(8), 1187.

Kawachi I., Kennedy B.P., Lochner K.,&Prothrow-Stith D. (1997). Social Capital, Income Inequality, and Mortality. *American journal of public health*, 87(9), 1491.

Kim, Y. S., & Leventhal, B. (2008). Bullying and suicide. A review. *International journal of adolescent medicine and health*, *20*(2), 133-154.

Kim, D., Subramanian, S. V., & Kawachi, I. (2006). Bonding versus bridging social capital and their associations with self - rated health: a multilevel analysis of 40 US communities. *Journal of Epidemiology & Community Health*, *60*(2), 116-122.

Kim, D., Subramanian, S.V., & Kawachi, I. (2008). Social capital and physical health: A systematic review of the literature. In: Kawachi, I.; Subramanian, SV.; Kim, D., editors. *Social Capital and Health.* p. 139-190.

Kim, H., Ku, B., Kim, J. Y., Park, Y. J., & Park, Y. B. (2016). Confirmatory and exploratory factor analysis for validating the phlegm pattern questionnaire for healthy subjects. *Evidence-Based Complementary and Alternative Medicine*, *2016*.

King, M. D., Jennings, J., & Fletcher, J. M. (2014). Medical adaptation to academic pressure: schooling, stimulant use, and socioeconomic status. *American Sociological Review*, *79*(6), 1039-1066.

Kipping, R. R., Smith, M., Heron, J., Hickman, M., & Campbell, R. (2015). Multiple risk behaviour in adolescence and socio-economic status: findings from a UK birth cohort. *The European Journal of Public Health*, *25*(1), 44-49.

Kennedy, B. P., Kawachi, I., Glass, R., & Prothrow-Stith, D. (1998). Income distribution, socioeconomic status, and self rated health in the United States: multilevel analysis. *Bmj*, *317*(7163), 917-921.

Koch, U., & Cratsley, K. (2020). Psychological Mechanisms. In: Zeigler-Hill V., Shackelford T.K. (eds) Encyclopedia of Personality and Individual Differences. Springer, Cham. https://doi.org/10.1007/978-3-319-24612-3_1562

Koechlin, H., Donado, C., Berde, C. B., & Kossowsky, J. (2018). Effects of childhood life events on adjustment problems in adolescence: a longitudinal study. *Journal of Developmental & Behavioral Pediatrics*, *39*(8), 629-641.

Kohen, D. E., Leventhal, T., Dahinten, V. S., & McIntosh, C. N. (2008). Neighborhood disadvantage: Pathways of effects for young children. *Child development*, *79*(1), 156-169.

Kokkevi, A., Richardson, C., Florescu, S., Kuzman, M., & Stergar, E. (2007). Psychosocial correlates of substance use in adolescence: A cross-national study in six European countries. *Drug and alcohol dependence*, *86*(1), 67-74.

Kühner, S., Lau, M., & Addae, E. A. (2021). The Mediating Role of Social Capital in the Relationship Between Hong Kong Children's Socioeconomic Status and Subjective Well-Being. *Child Indicators Research*, *14*(5), 1881-1909.

Kunst, A., Giskes, K., & Mackenbach, J. (2004). *Socio-economic inequalities in smoking in the european union: applying an equity lens to tobacco control policies: for the EU network on interventions to reduce socio-economic inequalities in health*. Erasmus Medical Center Rotterdam.

Kuntsche, E., Simons-Morton, B., Fotiou, A., ter Bogt, T., & Kokkevi, A. (2009). Decrease in adolescent cannabis use from 2002 to 2006 and links to evenings out with friends in 31 European and North American countries and regions. *Archives of pediatrics & adolescent medicine*, *163*(2), 119-125.

Kurankye, N. K. K. (2017). The Ghanaian (African) Extended Family System. Retrieved from https://www.ghanaweb.com/GhanaHomePage/features/The-Ghanaian-African-Extended-Familysystem-159990

Lambert, N. M., Stillman, T. F., Baumeister, R. F., Fincham, F. D., Hicks, J. A., & Graham, S. (2010). Family as a salient source of meaning in young adulthood. *The Journal of Positive Psychology*, *5*(5), 367-376.

Lambert, N. M., Stillman, T. F., Joshua, A. Hicks, J. A., Shanmukh, K. S., Roy, F., Baumeister, R. F., & Fincham, F. D. (2013). To Belong Is to Matter: Sense of Belonging Enhances Meaning in Life. *Personality and Social Psychology Bulletin*, *39*(11), 1418-1427.

Langford, C. P. H., Bowsher, J., Maloney, J. P., & Lillis, P. P. (1997). Social support: a conceptual analysis. *Journal of advanced nursing*, *25*(1), 95-100.

Langlois, E. V., Tuncalp, O., Norris, S. L., Askew, I., & Ghaffar, A. (2018). Qualitative
evidence to improve guidelines and health decision-making. *Bulletin of the World Health Organization*, *96*(2), 79.

Langton, C. E., & Berger, L. M. (2011). Family structure and adolescent physical health, behavior, and emotional well-being. *Social Service Review*, *85*(3), 323-357. Doi:10.1086/661922

Lantz, P. M., House, J. S., Mero, R. P., & Williams, D. R. (2005). Stress, life events, and socioeconomic disparities in health: results from the Americans' Changing Lives Study. *Journal of health and social behavior*, *46*(3), 274-288.

Lau, M. & Bradshaw, J. (2016). Material Well-being, Social Relationships and Children's Overall Life Satisfaction in Hong Kong. *Child Indicators Research*, *11*(1), 185-205. DOI 10.1007/s12187-016-9426-7.

Leake, V.S. (2007). Personal, familial, and systemic factors associated with family belonging for stepfamily adolescents. *Journal of Divorce & Remarriage*, 47:135–155.

Lee, C. M., Neighbors, C., & Woods, B. A. (2007). Marijuana motives: Young adults' reasons for using marijuana. *Addictive behaviors*, *32*(7), 1384-1394.
Leonard, M. (2005). Children, Childhood and Social Capital: Exploring the Links. *Sociology* 39(4), 605-622.

Leonard, M. (2008). Social and Subcultural Capital Among Teenagers in Northern Ireland. *Youth & Society*, 40, (2) 224-244.

Levin, K. A., & Currie, C. (2009). Inequalities in toothbrushing among adolescents in Scotland 1998–2006. *Health education research*, *24*(1), 87-97.

Lew, B., Chistopolskaya, K., Osman, A., Huen, J. M. Y., Abu Talib, M., & Leung, A. N. M. (2020). Meaning in life as a protective factor against suicidal tendencies in Chinese University students. *BMC psychiatry*, *20*(1), 1-9.

Lindström, M. (2008). Social capital and health-related behaviors. In *Social capital and health* (pp. 215-238). Springer, New York, NY.

Lindström, M., Hanson, B. S., & Östergren, P. O. (2001). Socioeconomic differences in leisure-time physical activity: the role of social participation and social capital in shaping health related behaviour. *Social science & medicine*, *52*(3), 441-451.

Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of health and social behavior*, 80-94.

Lloyd-Jones, D. M., Hong, Y., Labarthe, D., Mozaffarian, D., Appel, L. J., Van Horn, L., ... & Rosamond, W. D. (2010). Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's strategic Impact Goal through 2020 and beyond. *Circulation*, *121*(4), 586-613.

Lloyd, J. J., & Wyatt, K. M. (2014). Qualitative findings from an exploratory trial of the Healthy Lifestyles Programme (HeLP) and their implications for the process evaluation in the definitive trial. *BMC public health*, *14*(1), 1-15.

Lorenc, T., Petticrew, M., Welch, V., & Tugwell, P. (2013). What types of interventions generate inequalities? Evidence from systematic reviews. *J Epidemiol Community Health*, *67*(2), 190-193.

Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures.
Journal of Personality and Social Psychology, 71(3), 616-628.

Luk, J. W., Wang, J., & Simons-Morton, B. G. (2012). The co-occurrence of substance use and bullying behaviors among US adolescents: Understanding demographic characteristics and social influences. *Journal of adolescence*, *35*(5), 1351-1360.

Luk, J. W., Wang, J., & Simons-Morton, B. G. (2010). Bullying victimization and substance use among US adolescents: Mediation by depression. *Prevention Science, 11*(4), 355-359.

Lwanga, S. and Lemeshow, S. (1991). Sample size determination in health Studies: a practical manual. World Health Organization, Geneva, 23-30.

Madans, J. H. (2001). Health surveys.

Madans, J. H. (2017). Health surveys: Conditions and diseases: International Encyclopedia of the Social &Behavioral Sciences (Second Edition), 463-469. https://doi.org/10.1016/B978-0-12-803678-5.00193-4

Magnusson, C., & Trost, K. (2006). Girls experiencing sexual intercourse early: Could it play a part in reproductive health in middle adulthood?. *Journal of Psychosomatic Obstetrics & Gynecology*, *27*(4), 237-244.

Maher, E. J., Kinne, S., & Patrick, D. L. (1999). 'Finding a good thing': the use of quantitative and qualitative methods to evaluate an exercise class and promote exercise for adults with mobility impairments. *Disabil Rehabil, 21*(9), 438-447.

Marbelle, K. N., & Glorlick, W. S. (2013). Correlates of parental control and autonomy support in an interdependent culture: A look at Ghana. *Motivation and Emotion*, *37*(1), 79-92. DOI 10.1007/s11031-012-9289-2.

Marbell, K. N. (2014). *Encouraging autonomy in a collectivist culture: Examining parental autonomy support in Ghana and the moderating effect of children's self-construal*. Clark University.

Marbell-Pierre, K. N., Grolnick, W. S., Stewart, A. L., & Raftery-Helmer, J. N. (2017). Parental autonomy support in two cultures: the moderating effects of adolescents' self-construals. *Child development*, *90*(3), 825-845. DOI: 10.1111/cdev.12947

Margolis, R. (2013). Educational differences in healthy behavior changes and adherence among middle-aged Americans. *Journal of Health and Social Behavior*, *54*(3), 353-368.

Marmot, M. G., Stansfeld, S., Patel, C., North, F., Head, J., White, I., ... & Smith, G. D. (1991). Health inequalities among British civil servants: the Whitehall II study. *The Lancet*, *337*(8754), 1387-1393.

Marmot M. (2005). Social determinants of health inequalities. *Lancet*, 365:1099–104.

Maslow A. Toward a psychology of being. New York: Van Nostrand; 1968. (1962).
McCracken, K., & Phillips, D. R. (2017). *Global health: An introduction to current and future trends*. Routledge.

McCulloch, A., & Joshi, H. E. (2001). Neighbourhood and family influences on the cognitive ability of children in the British National Child Development Study. *Social science & medicine*, *53*(5), 579-591.

McCullough, M. L., Patel, A. V., Kushi, L. H., Patel, R., Willett, W. C., Doyle, C., ... & Gapstur, S. M. (2011). Following cancer prevention guidelines reduces risk of cancer, cardiovascular disease, and all-cause mortality. *Cancer Epidemiology and Prevention Biomarkers*, *20*(6), 1089-1097.

McPherson, K., Kerr, P. D. S., Cheater, F., & Morgan, A. (2013). The role and impact of social capital on the health and wellbeing of children and adolescents: a systematic review. *Glasgow: Glasgow Centre for Population Health. Glasgow Caledonian University*.

McPherson, K. E., Kerr, S., McGee, E., Morgan, A., Cheater, F. M., McLean, J., & Egan, J. (2014). The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. *BMC psychology*, *2*(1), 1-16.

Mackenbach, J. P., Bakker, M., & Benach, J. (Eds.). (2002). *Reducing inequalities in health: a European perspective* (pp. 3-24). London: Routledge.

Mackenbach, J. P. (2006). *Health inequalities: Europe in profile*. Produced by COI for the Department of Health.

MacKinnon, D. P., & Luecken, L. J. (2008). How and for whom? Mediation and moderation in health psychology. *Health psychology*, *27*(2S), S99.

McLaughlin, K. A., Breslau, J., Green, J. G., Lakoma, M. D., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2011). Childhood socio-economic status and the onset, persistence, and severity of DSM-IV mental disorders in a US national sample. *Social science & medicine*, *73*(7), 1088-1096.

McLoyd, V. C. (1990). The impact of economic hardship on black families and children: psychological distress, parenting, and socioemotional development. *Child development*, *61*(2), 311-346.

Mechanic, D. (1990). Promoting health. *Society*, *27*(2), 16-22.

Meisel, S. N., & Colder, C. R. (2017). Social goals impact adolescent substance use through influencing adolescents' connectedness to their schools. *Journal of youth and adolescence*, 46(9), 2015-2027.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage.

Mikkelsson, M., Salminen, J.J., & Kautiainen, H. (1997). Non-specific musculoskeletal pain in preadolescents. Prevalence and 1-year persistence. *Pain*, 73(1):29–35.

MOH. (2020). National Health Policy: Ensuring healthy lives for all. Revised Edition. The Republic of Ghana-Ministry of Health.

Moffitt, T.E. (2006). A review of research on the taxonomy of life-course persistent versus adolescence-limited antisocial behavior. In: Cullen FT, Wright JP, Blevins KR, eds. *Taking stock: the status of criminological theory.* New Brunswick, NJ, Transaction Publishers, 277–312.

Mohan, J., Twigg, L., Barnard, S., & Jones, K. (2005). Social capital, geography and health: a small-area analysis for England. *Social science & medicine*, *60*(6), 1267-1283.

Moreno, C., Sánchez-Queija, I., Muñoz-Tinoco, V., de Matos, M. G., Dallago, L., Ter Bogt, T., ... & Rivera, F. (2009). Cross-national associations between parent and peer communication and psychological complaints. *International Journal of Public Health*, *54*(2), 235-242.

Moreno-Maldonado, C., Ramos, P., Moreno, C., & Rivera, F. (2019). Direct and indirect influences of objective socioeconomic position on adolescent health: the mediating roles of subjective socioeconomic status and lifestyles. *International journal of environmental research and public health*, *16*(9), 1637.

Moor, I., Rathmann, K., Stronks, K., Levin, K., Spallek, J., & Richter, M. (2014). Psychosocial and behavioural factors in the explanation of socioeconomic inequalities

in adolescent health: a multilevel analysis in 28 European and North American countries. *J Epidemiol Community Health*, *68*(10), 912-921.

Moore, H. (1999). The health of children and young people: a new agenda. *Health Education*, 4:161-168.

Mondal, P. (2016). Family: Meaning, features, types and functions. Retrieved from http://www.yourarticlelibrary.com/family/family-the-meaning-features-types-and-functions-5230- words/8588

Morgan, A., Malam, S., Muir, J., & Barker, R. (2006). Health and social inequalities in English adolescents: exploring the importance of school, family and neighbourhood. *NICE, London*.

Morgan, A. (2010). Social capital as a health asset for young people's health and well-being. *Journal of child and adolescent psychology*, Supplement 2: life contexts 19-42.

Morgan, A., (2011). Social capital as a health asset for young people's health and well-being: definitions, measurement and theory.

Morgan, A., & Haglund, B. J. A. (2009). Social capital matters for adolescent health: evidence from the English HBSC study. *Health Promotion International*, *24*(4), 363-372.

Morgan, A., & Haglund, B. J. (2012). Researching social capital for young people's health. *Socialmedicinsk tidskrift*, *89*(4-5), 441-567.

Morgan, A., Rivera, F., Moreno, C., & Haugland, B. J. A. (2012). Does social capital travel? Influences on the life satisfaction of young people living in England and Spain. *BMC Public Health*, *12*(1), 138.

Morgan, A., Rivera, F., Moreno, C., & Haugland, B. J. A. (2012). Does social capital travel? Influences on the life satisfaction of young people living in England and Spain, *BMC Public Health*, *12*(1), pg.1.

Morgan, A., Rivera, F., Moreno, C., & Haugland, B. J. A. (2012). Does social capital travel? Influences on the life satisfaction of young people living in England and Spain, *BMC Public Health*, *12*(1), pg.4.

Morgan, A., & Swann, C. (Eds.). (2004). *Social capital for health: issues of definition, measurement and links to health*. Health Development Agency.

Morgan, A., & Ziglio, E. (2007). Revitalising the evidence base for public health: an assets model. *Promotion & Education*, *14*(2_suppl), 17-22.

Morgan, A., & Ziglio, E. (2007). Revitalising the evidence base for public health: an assets model. *Promotion & Education*, *14*(2_suppl), 17-22pg18.

Morrow, V. (1999). Conceptualising social capital in relation to the well-being of children and young people: a critical review. *The sociological review*, *47*(4), 744-765.

Morrow, V. (2000). *Networks and neighbourhoods: Children's and young people's perspectives*. NHS Health Development Agency.

Morrow V.M. (2000). 'Dirty Looks' and 'Trampy Places' in Young People's Accounts of Community and Neighbourhood: Implications for Health Inequalities. Critical Public Health 10(2), 141-152.

Mollborn, S., James-Hawkins, L., Lawrence, E., & Fomby, P. (2014). Health lifestyles in early childhood. *Journal of Health and Social behavior*, *55*(4), 386-402.

Murayama, H., Fujiwara, Y., & Kawachi, I. (2012). Social capital and health: a review of prospective multilevel studies. *Journal of epidemiology*, 1203140304-1203140304.

Mypeer.org.au. (2020). What are peer-based programs? (mypeer.org.au)

Najman, J. M., Hayatbakhsh, M. R., Clavarino, A., Bor, W., O'Callaghan, M. J., & Williams, G. M. (2010). Family poverty over the early life course and recurrent adolescent and young adult anxiety and depression: a longitudinal study. *American journal of public health*, *100*(9), 1719-1723.

Nansel, T. R., Overpeck, M. D., Haynie, D. L., Ruan, W. J., & Scheidt, P. C. (2003). Relationships between bullying and violence among US youth. *Archives of pediatrics & adolescent medicine*, *157*(4), 348-353.

NDCP, GSS, UNICEF. (2020). Multi-dimensional Child Poverty in Ghana. National Development Planning Commission, Ghana Statistical Service and the United Nation's Childrem's Fund.

Němec, M., & Zachariáš, J. (2018). The Krásná Hora, Milešov, and Příčovy Sb-Au ore deposits, Bohemian Massif: mineralogy, fluid inclusions, and stable isotope constraints on the deposit formation. *Mineralium Deposita*, *53*(2), 225-244.

NICE. (2008). Community engagement to improve health. London: National Institute for Health and Clinical Excellence.

Noack, H. (1994). Concepts of health and health promotion. Copenhagen: WHO Regional Office for Europe.

Novak, D., Emeljanovas, A., Mieziene, B., Štefan, L., & Kawachi, I. (2018). How different contexts of social capital are associated with self-rated health among Lithuanian high-school students. *Global health action*, *11*(1), 1477470.

Nutbeam D., Smith C., Moore L.,& Bauman A. (1993). Warning! Schools Can Damage Your Health: Alienation from School and Its Impact on Health Behaviour. *Journal of paediatrics and child health*, 29, S25-S30.

Nutbeam, D. (2000). Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health promotion international*, *15*(3), 259-267.

O'Brennan, L. M., & Furlong, M. J. (2010). Relations between students' perceptions of school connectedness and peer victimization. *Journal of School Violence*, *9*(4), 375-391.

O'Brien, K. A., & Bowles, T. V. (2013). The Importance of Belonging for Adolescents in Secondary School Settings. The European Journal of Social & Behavioural Sciences *The European Journal of Social & Behavioural Sciences*, *5*(2), 976

O'Connor, P. J., & Puetz, T. W. (2005). Chronic physical activity and feelings of energy and fatigue. *Med. Sci. Sports Exerc.* 37, 299–305. doi: 10.1249/01. MSS.0000152802.89770.CF

Odgers, C. L., Moffitt, T. E., Tach, L. M., Sampson, R. J., Taylor, A., Matthews, C. L., & Caspi, A. (2009). The protective effects of neighborhood collective efficacy on British children growing up in deprivation: a developmental analysis. *Developmental psychology*, *45*(4), 942.

OECD, P. (2017). Results (Volume III): Students' Well-Being. 2017, PISA. Retrieved from http://dx.doi.org/10.1787/9789264273856-en.

O'Neill, A. (2021a). Total population of Ghana from 2009 to 2019 by gender.

O'Neill, A. (2021b). Ghana: Median age of the population from 1950 to 2050.

O'Neill, A. (2021c). Age structure in Ghana from 2010 to 2020.

Oppong Asante, K. (2019). Cannabis and amphetamine use and its psychosocial correlates among school-going adolescents in Ghana. *Child and adolescent psychiatry and mental health*, *13*(1), 1-9.

Osgood, D. W., Ragan, D. T., Wallace, L., Gest, S. D., Feinberg, M. E., & Moody, J. (2013). Peers and the emergence of alcohol use: Influence and selection processes in adolescent friendship networks. *Journal of Research on Adolescence*, *23*, 500-512.

Ottova-Jordan, V., Smith, O. R., Augustine, L., Gobina, I., Rathmann, K., Torsheim, T., ... & Positive Health Focus Group. (2015). Trends in health complaints from 2002 to 2010 in 34 countries and their association with health behaviours and social context factors at individual and macro-level. *The European Journal of Public Health*, *25*(suppl_2), 83-89.

Padilla-Moledo, C., Ruiz, J. R., & Castro-Piñero, J. (2016). Parental educational level and psychological positive health and health complaints in Spanish children and adolescents. *Child: care, health and development*, *42*(4), 534-543.

Pampel, F. C., Krueger, P. M., & Denney, J. T. (2010). Socioeconomic disparities in health behaviors. *Annual review of sociology*, *36*, 349-370.

Parcel, T. L., Dufur, M. J., & Cornell Zito, R. (2010). Capital at home and at school: A review and synthesis. *Journal of marriage and family*, *72*(4), 828-846.

Pavleković, G., Donev, D., & Zaletel Kragelj, L. (2007). Concept and principles in health promotion. In: Donev D, Pavleković G, Zaletel Kragelj L, editors. Health promotion and disease prevention. Stability Pact Forum for Public Health Cooperation in SEE. Lage: Hans Jacobs Publishing Co; p. 3-14.

Pedersen M, Granado AR, Smith R, et al. Family. In:Currie C, Roberts C, Morgan A, editors. Young people's health in context – health behaviour in school-aged children (HBSC) study: international report from the 2001/2002 survey. Copenhagen: WHO-Europe; 2004. p. 26–33.

Peskin, M. F., Tortolero, S. R., Markham, C. M., Addy, R. C., & Baumler, E. R. (2007). Bullying and victimization and internalizing symptoms among low-income Black and Hispanic students. *Journal of Adolescent Health*, *40*(4), 372-375.

Petersen, A. C., Leffert, N., Graham, B., & Alwin, J. (1997). Promoting mental health during the transition into adolescence. In: Schulenberg J, Maggs JL, Hurrelmann K, eds. *Health risks and developmental transitions during adolescence.* New York, Cambridge University Press.

Pickett, W., Dostaler, S., Craig, W., Janssen, I., Simpson, K., Shelley, S. D., & Boyce, W. F. (2006). Associations between risk behavior and injury and the protective roles of social environments: an analysis of 7235 Canadian school children. *Injury Prevention*, *12*(2), 87-92.

Piko, B., & Fitzpatrick, K. M. (2001). Does class matter? SES and psychosocial health among Hungarian adolescents. *Social Science & Medicine*, *53*(6), 817-830.

Plenty, S., & Mood, C. (2016). Money, peers and parents: social and economic aspects of inequality in youth wellbeing. *Journal of Youth and Adolescence*, *45*(7), 1294-1308.

Procidano, M.E. & Heller, K. (1883), 'Measures of perceived social support from friends and from family: Three validation studies. *American Journal of Community Psychology*, 11(1), 1-24.

Poortinga, W. (2006). Do health behaviors mediate the association between social capital and health?. *Preventive medicine*, *43*(6), 488-493.

Portes, A. (1998). Social capital, its origins and applications in modern sociology. *Ann Rev Sociology,* 24, 1-24.

Portes, A., & Landolt, P. (1996). The downside of social capital. *The American Prospect*; 26: 18-21.

Poulin, F., & Chan, A. (2010). Friendship stability and change in childhood and adolescence. *Developmental review*, *30*(3), 257-272.

Prinstein, M. J. (2007). Moderators of peer contagion: A longitudinal examination of depression socialization between adolescents and their best friends. *Journal of Clinical Child and Adolescent Psychology*, *36*(2), 159-170.

Putnam, R. (1995). Making Democracy Work: Civic Traditions in Modern Italy. Princeton, New Jersey, University Press.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and schuster.

Radliff, K. M., Wheaton, J. E., Robinson, K., & Morris, J. (2012). Illuminating the relationship between bullying and substance use among middle and high school youth. *Addictive behaviors*, *37*(4), 569-572.
Rasmussen, M., Damsgaard, M. T., Holstein, B. E., Poulsen, L. H., & Due, P. (2005). School connectedness and daily smoking among boys and girls: the influence of parental smoking norms. *The European Journal of Public Health*, *15*(6), 607-612.

Ravens-Sieberer, U., Erhart, M., Gosch, A., Wille, N., & European KIDSCREEN Group. (2008). Mental health of children and adolescents in 12 European countries—results from the European KIDSCREEN study. *Clinical psychology & psychotherapy*, *15*(3), 154-163.

REACHOUT.com. (2021). 10 tips for improving self-esteem.
https://au.reachout.com/articles/10-tips-for-improving-your-self-esteem

Reiss, F., Meyrose, A. K., Otto, C., Lampert, T., Klasen, F., & Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PloS one*, *14*(3), e0213700.

Reiss, F. (2013). Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Social science & medicine*, *90*, 24-31.

Richter, M., Erhart, M., Vereecken, C. A., Zambon, A., Boyce, W., & Gabhainn, S. N. (2009). The role of behavioural factors in explaining socio-economic differences in adolescent health: a multilevel study in 33 countries. *Social science & medicine*, *69*(3), 396-403.

Richter, M., Moor, I., & van Lenthe, F. J. (2012). Explaining socioeconomic differences in adolescent self-rated health: the contribution of material, psychosocial and behavioural factors. *J Epidemiol Community Health*, *66*(8), 691-697.

Rodriguez-Ayllon, M., Cadenas-Sánchez, C., Estévez-López, F., Muñoz, N. E., Mora-Gonzalez, J., Migueles, J. H., ... & Esteban-Cornejo, I. (2019). Role of physical activity and sedentary behavior in the mental health of preschoolers, children and adolescents: a systematic review and meta-analysis. *Sports medicine*, *49*(9), 1383-1410.

Rodríguez-Rey, R., Garrido-Hernansaiz, H., & Collado, S. (2020). Psychological impact and associated factors during the initial stage of the coronavirus (COVID-19) pandemic among the general population in Spain. *Frontiers Psychology*. 11:1540. doi: 10.3389/fpsyg.2020.01540

Roza, S. J., Hofstra, M. B., Van Der Ende, J., & Verhulst, F. C. (2003). Stable prediction of mood and anxiety disorders based on behavioral and emotional problems in childhood: A 14-year follow-up during childhood, adolescence, and young adulthood. *American Journal of Psychiatry*, *160*(12), 2116-2121.

Ross, C. E., & Jang, S. J. (2000). Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American journal of community psychology*, *28*(4), 401-420.

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American educational research journal*, *38*(2), 437-460.

Ryan, R.M. and Deci, E.L. (2007) Active Human Nature: Self-Determination Theory and the Promotion and Maintenance of Sport, Exercise, and Health. In: Hagger, M.S. and Chatzisarantis, N.L.D., Eds., Intrinsic Motivation and Self-Determination in Exercise and Sport, Human Kinetics, Champaign, 1-19.

Sabia JJ, Rees DI. The effect of adolescent virginity status on psychological well-being. *Journal of Health Economics*, 2008, 27(5):1368–1381.

Sally, J. M., & Morrison, M. A. (2006). Coming of age with the Internet. A qualitative exploration of how the internet has become an integral part of young people's lives. *New media and Society*, *8* (1) 73-95.

Salmon G, James A, Cassidy EL, Auxiliadora Javaloyes M. Bullying a review: presentations to an adolescent psychiatric service and within a school for emotionally and behaviourally disturbed children. Clin Child Psychol Psychiatry 2000;5(4):563.

Samdal, O., Wold, B., Klepf, K. I., & Kannas, L. (2000). Students' perception of school and their smoking and alcohol use: a cross-national study. *Addiction Research*, *8*(2), 141-167.

Sasu, D., D. (2021). International poverty rate in Ghana 2017-2022.

Sawyer, S.M., Afifi, R.A., Bearinger, L.H., Blakemore, S.J., Dick, B., Ezeh, A.C., & Patton, G.C. (2012). Adolescence: a foundation for future health. *The Lancet*, 379(9826):1630-40.

Schaefer, E.S. (1965a). Children's reports of parental behavior: an inventory. *Child Development*, 36:413–424.

Schaefer ES. (1965b). A configurational analysis of children's reports of parent behavior. *Child Development*, 29:552–557.

Schinke, R., Yungblut, H., Blodgett, A., Eys, M., Peltier, D., Ritchie, S., & Recollet-Saikkonen, D. (2010). The role of families in youth sport programming in a Canadian Aboriginal reserve. *Journal of Physical Activity and Health*, *7*(2), 156-166.

Schmied, V., & Tully, L. (2009). *Effective strategies and interventions for adolescents in a child protection context: Literature review*.

Schimmack, U. (2008). *Nations' wellbeing and the Human Development Index*. Retrieved

March 13, 2009 from http://www.wellbeingscience.org/

Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *Comparative sociology*, *5*(2-3), 137-182.

Scott, C. (2010). Community vitality. A report of the canadian index of wellbeing. Canadian Council on Social Development (CCSD).

Scottish Government. (2012). National parenting strategy. Edinburgh: Scottish Government.

Sebastian, C. L., Tan, G. C., Roiser, J. P., Viding, E., Dumontheil, I., & Blakemore, S. J. (2011). Developmental influences on the neural bases of responses to social rejection: implications of social neuroscience for education. *Neuroimage*, *57*(3), 686-694.

Sen, A. (1999). Development as freedom. Anchor Book: A Division of Random House. *Inc., New York.*

Sen, A. K. (2000). What is development about?. *Frontiers of Development Economics: The future in perspective*, 506-513.

Senn, T. E., Walsh, J. L., & Carey, M. P. (2014). The mediating roles of perceived stress and health behaviors in the relation between objective, subjective, and neighborhood socioeconomic status and perceived health. *Annals of Behavioral Medicine*, *48*(2), 215-224.

Sengupta, N. K., Osborne, D., Houkamau, C. A., Hoverd, W. J., Wilson, M. S., Greaves, L. M., & Sibley, C. G. (2012). How much happiness does money buy? Income and subjective well-being in New Zealand. *New Zealand Journal of Psychology*, *41*(2), 21-34.

Schnittker, J., & McLeod, J. D. (2005). The social psychology of health disparities. *Annu. Rev. Sociol.*, *31*, 75-103.

Sember, V., Jurak, G., Kovač, M., Đurić, S., &Starc, G. (2020). Decline of physical activity in early adolescence: A 3-year cohort study. *PloS one*, *15*(3), e0229305.

Sharkey, P., & Faber, J. W. (2014). Where, when, why, and for whom do residential contexts matter? Moving away from the dichotomous understanding of neighborhood effects. *Annual review of sociology*, *40*, 559-579.

Shin, R., Daly, B., & Vera, E. (2007). The relationship of peer norms, ethnic identity, and peer support to school engagement in urban youth. *Professional School Counselling*, 10, 379-388.

Short, S. E., & Mollborn, S. (2015). Social determinants and health behaviors: conceptual frames and empirical advances. *Current opinion in psychology*, *5*, 78-84.

Siahpush, M., & Singh, G. K. (2000). A multivariate analysis of the association between social class of origin and current social class with self-rated general health

and psychological health among 16-year-old Australians. *Australian and New Zealand journal of medicine*, *30*(6), 653-659.

Sirard, J. R., & Pate, R. R. (2001). Physical activity assessment in children and adolescents.

Sports Medicine, *31*, 439-454.

Slevin, M. L., Nichols, S. E., Downer, S. M., Wilson, P., Lister, T. A., Arnott, S., ... & Cody, M. (1996). Emotional support for cancer patients: what do patients really want?. *British journal of cancer*, *74*(8), 1275-1279.

Solar O, Irwin A. (2010). A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). Geneva: World Health Organization.

South, J., Higgins, T. J., Woodall, J., & White, S. M. (2008). Can social prescribing provide the missing link?. *Primary Health Care Research & Development*, *9*(4), 310-318.

Spaetgens, B., Pustjens, T., Scheepers, L. E., Janssens, H. J., van der Linden, S., & Spencer, N. J. (2006). Social equalization in youth: evidence from a cross-sectional British survey. *The European Journal of Public Health*, *16*(4), 368-375.

Springer, A., Parcel, G., Baumler, E., & Ross, M. (2006). Supportive social relationships and adolescent health risk behavior among secondary school students in El Salvador. *Social science & medicine*, *62*(7), 1628-1640.

Springer, K. W., Hankivsky, O., & Bates, L. M. (2012). Gender and health: relational, intersectional, and biosocial approaches. *Social science & medicine (1982)*, *74*(11), 1661-1666.

Statham, J., & Chase, E. (2010). Briefing Paper 1.

Stanton, R., To, Q. G., Khalesi, S., Williams, S. L., Alley, S. J., Thwaite, T. L., ... & Vandelanotte, C. (2020). Depression, anxiety and stress during COVID-19: associations with changes in physical activity, sleep, tobacco and alcohol use in Australian adults. *International journal of environmental research and public health*, *17*(11), 4065. doi: 10.3390/ijerph17114065

Stanton-salazar, R. (2010). A social capital framework for the study of institutional agents and their role in the empowerment of low status students and youth. *Youth & Society*, *43*(3), 1066-1109. DOI: 10.1177/0044118X10382877.

Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship.. In: Feldman, SS.; Elliot, GR., editors. At the threshold: The developing adolescent. Harvard University Press, 255-276.

Stewart, A. L., & Ware, J. E. (1992). *Measuring functioning and well-being: the medical outcomes study approach*. Duke University Press.

Stivaros, H. (2007). An ecological perspective of children's school experiences and educational outcome. Doctoral thesis, University of Huddersfield.

Stokes, J., Noren, J., & Shindell, S. (1982). Definition of terms and concepts applicable to clinical preventive medicine. Cited in AFMC pg1, *Journal of community health*, *8*(1), 33-41.

Story, W. T. (2013). Social capital and health in the least developed countries: A critical review of the literature and implications for a future research agenda**.** *Global Public Health* 8(9), 983–999. Doi:10.1080/17441692.2013.842259

Subedi, Dhanapati. "Explanatory sequential mixed method design as the third research community of knowledge claim." *American Journal of Educational Research* 4, no. 7 (2016): 570-577.

Suuk, M. (2016). Gender-Based. Violence Fighting Forced Marriage. Development and Coperation. Retrieved from https://www.dandc.eu/en/article/northern-Ghana-many-teenage-girls-are-forced-marriage.

Svalastog, A. L., Donev, D., Kristoffersen, N. J., & Gajović, S. (2017). Concepts and definitions of health and health-related values in the knowledge landscapes of the digital society. *Croatian medical journal*, *58*(6), 431.

Szreter, S., & Woolcock, A. (2004). Health by association? Social capital, social theory and the political economy of public health. *International Journal of Epidemiology*,
33(4):650–67.

Tamakoshi, A., Tamakoshi, K., Lin, Y., Yagyu, K., Kikuchi, S., & JACC Study Group. (2009). Healthy lifestyle and preventable death: findings from the Japan Collaborative Cohort (JACC) Study. *Preventive medicine*, *48*(5), 486-492.

Telama, R. (2009). Tracking of physical activity from childhood to adulthood: a review. *Obesity facts*, *2*(3), 187-195.

Tharp-Taylor, S., Haviland, A., & D'Amico, E. J. (2009). Victimization from mental and physical bullying and substance use in early adolescence. *Addictive behaviors*, *34*(6-7), 561-567.

Thorsten, D. (2017). Women on the move in Ghana: Gender, social change, and migration. Retrieved from http://migratingoutofpoverty.blogspot.hk/2017/02/women-on-move-in-ghana-gender-social.html

Torsheim, T., & Wold, B. (2001). School-Related Stress, School Support, and Somatic Complaints A General Population Study. Journal of Adolescent Research, 16(3):293-303.

Torsheim, T., Aaroe, L. E., & Wold, B. (2003). School-related stress, social support, and distress: Prospective analysis of reciprocal and multilevel relationships. *Scandinavian journal of psychology*, *44*(2), 153-159.

Tudge, J. R., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of family theory & review*, 1(4), 198-210.

Turrell, G., Hewitt, B., Patterson, C., & Oldenburg, B. (2003). Measuring socio-economic position in dietary research: is choice of socio-economic indicator important?. *Public health nutrition*, *6*(2), 191-200.

Uchino, B. (2004). *Social Support and Physical Health: Understanding the Health Consequences of Relationships*. New Haven, CT: Yale University Press, 16–17.

UN. (2019). United Nations Statistics Division: Statistics and indicators on women and men. Retrieved from https://unstats.un.org/unsd/demographic/products/indwm/default.htm

UN. (2022a). https://sdgs.un.org/goals/goal3

UN. (2022b). https://sdgs.un.org/goals/goal10

UNICEF. (2011). The state of the world's children. Adolescence, an age of opportunity. Retrieved from https://www.unicef.org/sowc2011/pdfs/SOWC-2011-Main-Report_EN_02092011.pdf

UNICEF. (2014). Child Protection Baseline Research Report, 2014, Ministry of Gender, Children and Social Protection, Accra, Ghana.

UNICEF (2015), 'What you need to know about the Child and Family Welfare Policy-Republic of Ghana', Ministry of Gender, Children and Social Protection and UNICEF.

UNICEF. (2017). *Building the future: Children and the sustainable development goals in rich countries*.

UNICEF.(2018). Adolescence explained.

Retrieved from https://www.unicef.org/romania/AdolescentaW.pdf

UNFPA. (2017). United Nations Population Fund. Review of adolescent and youth policies, strategies and laws in selected countries in West Africa. Retrieved from https://wcaro.unfpa.org/sites/default/files/pub-pdf/UNFPA_WAfrica_Youth_ENG_20170726%20%281%29_0.pdf

Uphoff, E. P., Pickett, K. E., Cabieses, B., Small, N., & Wright, J. (2013). A systematic review of the relationships between social capital and socioeconomic inequalities in health: a contribution to understanding the psychosocial pathway of health inequalities. *International journal for equity in health*, *12*(1), 1-12.

US Department of health and human services. (2012). Preventing tobacco use among youth and young adults: a report of the Surgeon General. Rockville (MD): US Department of Health and Human Services. Retrieved from http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf

Van Bortel, T., Wickramasinghe, N. D., Morgan, A., & Martin, S. (2019). Health assets in a global context: a systematic review of the literature. *BMJ open*, *9*(2), bmjopen-2018. doi:10.1136/ bmjopen-2018-023810.

Van Deurzen, E. (2001). Existential counseling and psychotherapy in practice. London: Sage.

van Nieuwenhuijzen, M., Junger, M., Velderman, M. K., Wiefferink, K. H., Paulussen, T. W., Hox, J., & Reijneveld, S. A. (2009). Clustering of health-compromising behavior and delinquency in adolescents and adults in the Dutch population. *Preventive medicine*, *48*(6), 572-578.

Van Ours, J. C., & Williams, J. (2009). Why parents worry: initiation into cannabis use by youth and their educational attainment. *Journal of health economics*, *28*(1), 132-142.

Veenhoven, R. (1991). Is happiness relative. *Social Indicators Research*, *24*(1), 1-34.

Veenstra, G. (2000). Social capital, SES and health: an individual-level analysis. *Social science & medicine*, *50*(5), 619-629.

Verhaeghe, P. P., & Tampubolon, G. (2012). Individual social capital, neighbourhood deprivation, and self-rated health in England. *Social Science & Medicine*, *75*(2), 349-357.

Viner, R. M., Haines, M. M., Head, J. A., Bhui, K., Taylor, S., Stansfeld, S. A., ... & Booy, R. (2006). Variations in associations of health risk behaviors among ethnic minority early adolescents. *Journal of Adolescent Health*, *38*(1), 55-e15.

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The lancet*, *379*(9826), 1641-1652.

Viner, R. (2017). How to measure enabling and protective systems for adolescent health methods: Conducting research with adolescents in Low- and Middle-Income Countries. *Innocenti Research Brief. University College London.* Retrieved from https://www.unicef-irc.org/publications/pdf/IRB_2017_08_Adol06.pdf

Vingilis, E., Wade, T. J., & Adlaf, E. (1998). What factors predict student self-rated physical health?. *Journal of adolescence*, *21*(1), 83-97.

Von Hippel, C. (2018). A next generation assets-based public health intervention development model: the public as innovators. *Frontiers in public health*, 248.

Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine*, *370*(23), 2219-2227.

Vukojevic, M., Zovko, A., Talic, I., Tanovic, M., Resic, B., Vrdoljak, I., & Splavski, B. (2017). Parental socioeconomic status as a predictor of physical and mental health outcomes in children—literature review. *Acta Clin Croat*, *56*(4), 742-8.

Vyncke, V., Stevens, V., De Clercq, B., Ieven, A., Hrafn Jonsson, S., & Darias Curvo, S. (2010). Does community social capital make a difference for levelling the health gradient in children? A literature review.

Wang, R. H., Chen, S. W., Tang, S. M., Lee, S. L., & Jian, S. Y. (2011). The relationship between selected developmental assets and health-promoting behaviours of adolescents in Southern Taiwan. *Journal of Clinical Nursing*, *20*(3-4), 359-368.

Weaver, R. R., Lemonde, M., Payman, N., & Goodman, W. M. (2014). Health capabilities and diabetes self-management: the impact of economic, social, and cultural resources. *Social Science & Medicine*, *102*, 58-68.

Weinstein, A. A., Koehmstedt, C., & Kop, W. J. (2017). Mental health consequences of exercise withdrawal: A systematic review. *General hospital psychiatry*, *49*, 11-18.

Wen, M., Van Duker, H., & Olson, L. M. (2009). Social contexts of regular smoking in adolescence: towards a multidimensional ecological model. *Journal of adolescence*, *32*(3), 671-692.

Weyers, S., Dragano, N., Möbus, S., Beck, E. M., Stang, A., Möhlenkamp, S., ... & Siegrist, J. (2010). Poor social relations and adverse health behaviour: stronger associations in low socioeconomic groups?. *International Journal of Public Health*, *55*(1), 17-23.

WHO. (1958). *The first ten years of the World Health Organization*. Geneva: World Health Organization. ISBN 9789241560146, pg459.

WHO. (1984). World Health Organization. Regional Office for Europe (1984). Health promotion: a discussion document on the concept and principles: summary report of the Working Group on Concept and Principles of Health Promotion, Copenhagen, 9-13 July 1984 Retrieved from https://apps.who.int/iris/handle/10665/107835

WHO. (1984). World Health Organization. Regional Office for Europe (1984). Health promotion: a discussion document on the concept and principles: summary report of the Working Group on Concept and Principles of Health Promotion, Copenhagen, 9-13 July 1984, pg4 Retrieved from https://apps.who.int/iris/handle/10665/107835

WHO. (1996). *Equity in health and health care: a WHO/SIDA initiative* (No. WHO/ARA/96.1). World Health Organization.

WHO. (2006). *The world health report 2006: working together for health*. World Health Organization.

WHO. (2008). Closing the gap in a generation – health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health. Geneva: World Health Organization.

WHO. (2010). *Position paper on mainstreaming adolescent pregnancy in efforts to make pregnancy safer*. Geneva, World Health Organization, 2010.

WHO. (2012). World Health Organization and well-being at work, pg2. Retrieved from https://www.hsl.gov.uk/media/202146/5_kim_who.pdf

WHO. (2011). Young people: health risks and solutions. Fact sheet no. 345. 8. World Health Organization.

WHO. (2011b). *WHO report on the global tobacco epidemic, 2011: Warning about the dangers of tobacco: Executive summary* (No. WHO/NMH/TFI/11.3). Geneva: World Health Organization.

WHO. (2015). Health for the World's Adolescents: A Second Chance in the Second Decade, Geneva: World Health Organization. *How Inequalities Develop through*

Childhood: Life Course Evidence from the Young Lives Cohort Study UNICEF Office of Research–Innocenti.

WHO. (2017). Global conferences on health promotion – charters, declarations and other documents: Ottawa 1986, Adelaide 1988, Sundsvall 1991, Jakarta 1997, Mexico 2000 and Bangkok 2005. Available at: http://www.who.int/healthpromotion/conferences/en. Accessed: December 27, 2017

WHO. (1998). Health Promotion Glossary; WHO: Geneva, Switzerland, 1998. Retrieved from https://www.who.int/healthpromotion/about/HPR%20Glossary%201998.pdf

Wills, T.A. (1991). Margaret, Clark (ed.). Social support and interpersonal relationships. *Prosocial Behavior, Review of Personality and Social Psychology*, 12: 265–289.

Wit, D. J. D., Karioja, K., Rye, B. J., & Shain, M. (2011). Perceptions of declining classmate and teacher support following the transition to high school: Potential correlates of increasing student mental health difficulties. *Psychology in the Schools*, *48*(6), 556-572.

Wilkinson, R. G., & Marmot, M. (Eds.). (2003). *Social determinants of health: the solid facts*. World Health Organization.

Wilkinson, R. B. (2004). The role of parental and peer attachment in the psychological health and self-esteem of adolescents. *Journal of youth and adolescence*, *33*(6), 479-493.

Willms, J. D. (2003). *Student engagement at school: A sense of belonging and participation: Results from PISA 2000*. OECD publishing.

Williams, S. J. (1995). Theorising class, health and lifestyles: can Bourdieu help us?. *Sociology of health & illness*, *17*(5), 577-604.

Wright, L. J., Williams, S. E., & Veldhuijzen van Zanten, J. J. (2021). Physical activity protects against the negative impact of coronavirus fear on adolescent mental health and well-being during the COVID-19 pandemic. *Frontiers in Psychology*, *12*, 737.

Ximénez, C. (2009). Recovery of weak factor loadings in confirmatory factor analysis under conditions of model misspecification. *Behavior Research Methods*, *41*(4), 1038-1052.

Ximénez, C. (2016). Recovery of weak factor loadings when adding the mean structure in confirmatory factor analysis: A simulation study. *Frontiers in Psychology*, *6*, 1943.

Xu, F., Cui, W., Xing, T., & Parkinson, M. (2019). Family socioeconomic status and adolescent depressive symptoms in a Chinese low–and middle–income sample: the indirect effects of maternal care and adolescent sense of coherence. *Frontiers in Psychology*, *10*, 819.

Xue, Y., Leventhal, T., Brooks-Gunn, J., & Earls, F. J. (2005). Neighborhood residence and mental health problems of 5-to 11-year-olds. *Archives of general psychiatry*, *62*(5), 554-563.

Yamaguchi, A. (2013). Influences of social capital on health and well-being from qualitative approach. *Global journal of health science*, *5*(5), 153.

Young, J. F., Berenson, K., Cohen, P., & Garcia, J. (2005). The role of parent and peer support in predicting adolescent depression: A longitudinal community study. *Journal of Research on Adolescence*, *15*(4), 407-423.

Yugo, M., & Davidson, M. J. (2007). Connectedness within social contexts: the relation to adolescent health. *Healthcare Policy*, *2*(3), 47.

Zou, T., Su, Y., & Wang, Y. (2018): Examining relationships between social capital, emotion experience and life satisfaction for sustainable community. *Sustainability*, *10*(8), 2651. doi:10.3390/su10082651.