

1999

A structural equation model of environmental attitude and behaviour : the Hong Kong experience

Oi Ling SIU
siuol@ln.edu.hk

Kui Yin CHEUNG

Follow this and additional works at: <http://commons.ln.edu.hk/cppswp>

 Part of the [Applied Behavior Analysis Commons](#), [Environmental Policy Commons](#), and the [Other Social and Behavioral Sciences Commons](#)

Recommended Citation

Siu, O. L., & Cheung, K. Y. (1999). A structural equation model of environmental attitude and behaviour: The Hong Kong experience (CPPS Working Paper Series No.96). Retrieved from Lingnan University website: <http://commons.ln.edu.hk/cppswp/51/>

This Paper Series is brought to you for free and open access by the Centre for Public Policy Studies 公共政策研究中心 at Digital Commons @ Lingnan University. It has been accepted for inclusion in Centre for Public Policy Studies : CPPS Working Paper Series by an authorized administrator of Digital Commons @ Lingnan University.



Working Paper Series

Centre for Public Policy Studies

No. 96 (8/99) CPPS

A STRUCTURAL EQUATION MODEL OF
ENVIRONMENTAL ATTITUDE AND BEHAVIOUR:
THE HONG KONG EXPERIENCE

by

Dr. Oi-ling Siu and
Dr. Kui-yin Cheung

香港屯門
嶺南大學

公共政策研究中心
Centre for Public Policy Studies
Lingnan University
Tuen Mun, Hong Kong

Tel: (852) 2616 7432
Fax: (852) 2591 0690

Lingnan University
Hong Kong

A Structural Equation Model of Environmental Attitude
and Behaviour: The Hong Kong Experience

Dr. Oi-ling Siu and
Dr. Kui-yin Cheung

September 1999

© Oi-ling Siu and Kui-yin Cheung

Dr. Oi-ling Siu is Assistant Professor of Department of Politics and Sociology, Lingnan University, Hong Kong.

Dr. Kui-yin Cheung is Associate Professor of Department of Economics, Lingnan University, Hong Kong.

Centre for Public Policy Studies
Lingnan University
Tuen Mun
Hong Kong
Tel: (852) 2616 7432
Fax: (852) 2591 0690
Email: cpps@ln.edu.hk
<http://www.ln.edu.hk/cpps/>

A Structural Equation Model of Environmental Attitude and Behaviour:

The Hong Kong Experience

Oi-ling Siu, Lingnan University

Kui-yin Cheung, Lingnan University

Running Head: Environmental Attitude and Behaviour in Hong Kong

Correspondence concerning this article should be addressed to Oi-ling Siu at:

Department of Politics and Sociology
Lingnan University
Tuen Mun, N. T.,
Hong Kong
Fax: 852-28917940
Email: siuol@ln.edu.hk

CAPS and CPPS Working Papers are circulated to invite discussion and critical comment. Opinions expressed in them are the author's and should not be taken as representing the opinions of the Centres or Lingnan University. These papers may be freely circulated but they are not to be quoted without the written permission of the author. Please address comments and suggestions to the author.

A Structural Equation Model of Environmental Attitude and Behaviour: The Hong Kong Experience

Abstract

The present study aims at establishing a structural equation model relating affect, verbal commitment, and actual commitment using a sample of 271 university students (119 males, 152 females) by applying the theory of reasoned action (Aizen & Fishbein, 1980). A linear structural equation relation (LISREL) model was developed to verify that verbal commitment is a function of affect, and in turn, determine actual commitment. Sixty percent of the variance of verbal commitment could be explained by affect, and 19 % of actual commitment could be explained by verbal commitment; yet only a small percentage of the variance of actual commitment could be explained by affect. It can be concluded that verbal commitment is a good mediator of the affect-actual commitment relationship, and therefore the theory of reasoned action of having intention as the mediator of the attitude-environment relationship can be generalized to a Chinese sample.

Introduction

During the past three decades there have been numerous studies on environmental awareness done in North American and European Countries (Maloney & Ward, 1973, 1975; Arbuthnot & Lingg, 1975; Smythe & Brooke, 1980; Schahn & Holzer, 1990; Hausbeck, Milbrath & Enright, 1992; Vogel, 1996; Dillon & Gayford, 1997; Kaiser, Wolfing & Fuhrer, 1999). It is believed that, as advocated by Maloney *et al.* (1973, 1975) and Schahn *et al.* (1990), eliminating maladaptive behavior and promoting individual environmental awareness are very important to solve environmental problems. Recently, the importance of environmental attitude has been reiterated as the most important concept in determining an individual's ecological behaviour (Newhouse, 1990; Kaiser *et al.*, 1999). Yet one question has still to be adequately answered, and that concerns the causal relationship between attitude and behaviour. The current study attempts to provide some empirical results by establishing a structural equation model relating affect, verbal commitment, and actual commitment using a sample of university students in Hong Kong.

Environmental Attitude and Behaviour

An attitude is an theoretical construct and cannot be feasibly measured by direct observation (Fishbein & Aizen, 1975). An attitude consists of three components - cognitive, affective and intentional components. As defined by Vining and Ebre (1992), an attitude towards the environment refers to environmental concern. Some researchers used the terms 'environmental awareness' and 'environmental concern' interchangeably (Vogel, 1996).

Research adopting this three component-attitude approach in studying environmental attitude and behaviour can be traced back to the classic studies

conducted by Maloney and his co-workers (Maloney & Ward, 1973; Maloney *et al.*, 1975). They proposed that the affect scale (measures the affective component), factual knowledge (measures the cognitive aspects), and verbal commitment (measures the behavioural component of environmental attitude) predict actual commitment (measures ecological behaviour).

Later studies in Western and Chinese societies corroborated their findings (Smythe & Brook, 1980; Sia, Hungerford & Tomera, 1985/86; Siu, 1991, 92; Berger & Corbin, 1992; Axelrod & Lehman, 1993). For instance, the first author conducted a study in 1990 to measure 233 college and 350 non-college people in Hong Kong, and found that the affect subscale was positively correlated with the verbal commitment and actual commitment subscales; and verbal commitment and actual commitment were positively correlated (Siu, 1991). She replicated the study in the year after using a sample of 222 undergraduates and 220 housewives in Hong Kong, and yield similar results (Siu, 1992).

However, studies investigating the relationship between environmental awareness/concern and behaviour did not find very high correlation, and some even showed very low correlation (e.g., Hines, Hungerford, & Tomera, 1987). Vogel (1996) attributed this to the need of employing highly complex models to analyse such relationships. Recently, a structural equation model has been developed by path analysis to relate environmental attitude and ecological behaviour (Vogel, 1996; Kaiser *et al.*, 1999), and demonstrated success.

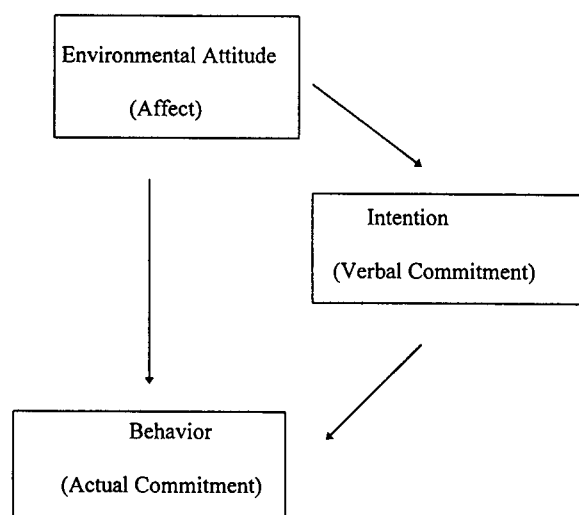
Even though the aforementioned Hong Kong studies yielded statistically significant relationships between affect, verbal commitment, and actual commitment, the causal relationships between the different components of environmental attitude and behaviour remained an untouched research area in Hong Kong.

As we are approaching the end of the 1990's, we aim at replicating the studies conducted at the beginning of the 1990's to a sample of university students in Hong Kong in order to arrive at a higher reliability of measures. Another purpose of the present study is to establish a structural equation model relating affect, verbal commitment, and actual commitment, in order to contribute to generalizability of environmental attitude theory in environmental psychology.

Theoretical Framework and Hypothesis for the Study

The theoretical framework for the study modeled from the theory of reasoned action (Ajzen & Fishbein, 1980) (see Figure 1). Based on previous evidence that intentions are good predictors of behaviour (Ajzen, 1988), it is hypothesised that intention (verbal commitment to protect the environment) is the immediate antecedent of behaviour (actual commitment to protect the environment); and intention, in turn, is a function of one's environmental attitude (affect). In other words, intention mediates the attitude-behaviour relationship. In addition, it is also hypothesised that positive affect towards the environment is also a precondition of actual commitment in protecting the environment.

Figure 1. Theoretical Framework for the Study



Method

Self-administered questionnaire survey method was used to collect data.

Sample and Procedure

The target population for the study was students of the seven tertiary institutes in Hong Kong. Simple random sampling method was used to select three tertiary institutes from the seven, and seventy students of each chosen institutes were invited to participate in the research by accidental sampling method. The data collection was conducted from late January to the middle of February in 1999. One in every ten students encountered outside the library of each selected institute was approached to complete the questionnaire.

The other sample includes 61 students from two classes taught by the two authors. The students were asked to fill in the questionnaires during lecture hours. These make up a total sample of 271 (3 x 70 + 61).

Measures

The questionnaire consists of three scales measuring Affect (9 items), Verbal Commitment (9 items), and Actual Commitment (9 items) which were used by Siu's (1991, 1992) studies. All of the items are depicted in Appendix I. They are all 6-point Likert Type scales ranging from 'strongly disagree' to 'strongly agree' (with high scores denoting high affect and commitment). Questions asking for background information (such as age, gender, major, and institute) are also included in the questionnaire.

Results and Analysis

Sample Distribution

The average age of the student sample was 21 years old, with 43.9% (N = 119) males and 56.1% (N = 152) females. There was an even distribution of year of study with 38.4% of them studied in year 1, 28% in year 2 and 33.6% in year 3. About half of the respondents majored in Arts (57.2%) and 40% majored in Social Science (42.8%).

Comparisons of Means and Reliabilities of Attitude and Behaviour Scores

A series of *t* - tests of affect, verbal commitment, and actual commitment scores between gender, year of study, and major revealed that there was only a gender difference in verbal commitment, with female students scored statistically significantly higher than male students ($t = 3.33$, $df = 269$, $p < .001$). The mean of affect was statistically significantly higher than verbal commitment ($t = 8.83$, $df = 270$, $p < .001$).

and that was statistically significantly higher than actual commitment ($t = -28.09$, $df = 270$, $p < .001$) (see Table 1). In Table 1, the results show that the internal consistencies of three scales ranged from .70 to .78, which are acceptable.

Relationship between Affect, Verbal Commitment, and Actual Commitment

Table 1 also presents the interrelations among affect, verbal commitment, and actual commitment. It can be seen from Table 1 that affect was highly and positively related to verbal commitment; and verbal commitment was highly and positively related to actual commitment. Affect was also positively significantly related to actual commitment, but relatively this relationship was weaker than the other two. These three variables were then further studied with path analysis.

Empirical Results of Attitude and Behaviour

All of the items of each subscale were used as input variables for the structural equation analysis. A LISREL (Linear Structure Relation) model describing the structural relationship between affect (A1 to A9), verbal commitment (VC1 to VC9) and actual commitment (AC1 to AC9) variables is tentatively specified and tested by the program of AMOS 3.6.

Figure 2 shows the completely standardised outcome of AMOS programme estimation. Some of the items in the questionnaire were excluded in the equation in order to get a higher Goodness of Fit Index (GFI). This was done on the base of modification index. The deleted items were A5, A8, AC7, and VC2. The model after some modifications fits data well evidenced by χ^2 of 283.22 ($df = 214$), GFI of .916, RMSR (Root Mean Square Residual) of .059. These results look acceptable. They suggest that the hypotheses that verbal commitment is a function of affect, and in turn,

determine actual commitment are accepted from an empirical point of view. Sixty percent of the variance of verbal commitment could be explained by affect (standardized path coefficient = .78); and 19% of actual commitment could be explained by verbal commitment (standardized path coefficient = .44). Since only a small percentage of the variance of actual commitment could be explained by affect, verbal commitment is believed to be a good mediator of the affect-actual commitment relationship. In other words, intention is a mediator of the attitude - environment relationship.

The direct paths were added from observed variables of VC1 and VC6 to AC2, from VC3 to AC3, and from VC4 to AC1; for each of these paths represent the same measured issue. For instance, VC3 and AC3 are related to plastic bags; VC1 and AC2 are related to walking/cycling rather than driving; VC4 and AC1 are related to paper recycling. These results provide further evidence of the empirical relationship between verbal commitment and actual commitment, or intentions are good predictors of behaviour.

Discussion /Contribution of the Study

Our findings show that the mean of affect is statistically significantly lower than that of verbal commitment, and that is statistically significantly lower than that of actual commitment. These results are similar to those reported in past research in Hong Kong and in Western societies (Maloney *et al.*, 1975; Schahn & Holzer, 1990; Siu, 1991, 1992; Hausbeck *et al.*, 1992). It is always easy to express positive affect towards the environment, or having high intention to protect the environment, but it is not easy to commit in actions to protect the environment. Therefore environmental education at university level is needed to enhance students' daily habits of performing

environmental protection behaviour. Perhaps some sort of incentives, at policy level, can be implemented such as using records in working for the environment as a certain percentage of continuous assessment in general education courses at the universities.

The proposed model of applying the theory of reasoned action (Aizen & Fishbein, 1980) (see Figure 1) was verified by the current study. As it was found in some other studies, intention is the immediate antecedent of behavior, and intention, in turn, is a function of one's environmental attitude (Vogel, 1996; Dillon & Gayford, 1997; Kaiser *et al.*, 1999). These causal relationships between attitude, intention, and behaviour found point to the importance of having intention to solve environmental problems. Intention, as it was found, is a good predictor of behaviour, and is a good mediator of the attitude-behaviour relationship. These results further suggest that environmental education is important to arouse the students' awareness, and at the same time to focus on intention as well. Having students to express the intention to protect the environment will likely to find them committed to act environmentally. For instance, as evidenced by the high path coefficient yielded by the current study, having students to express verbally they prefer a seldom use of plastic bags will likely to find them not to use plastics bags so frequently in reality (standardized path coefficient = .21).

The structural equation model established by this study is similar to those conducted in Western societies (Vogel, 1996; Kaiser *et al.*, 1999). These results provide support to the claim that an advanced and complex model, such as structural equation model, is needed to verify the causal relationship between attitude and behaviour (Vogel, 1996). Therefore the current study contributes to generalizability of theory in environmental psychology.

The three studies on environmental attitude and behaviour conducted by the first author from 1990 to 1999 have found similar findings. These contribute to convergent validity of results. In addition, the instrument for the study, which was firstly used in early 1990's, has been found to be still reliable. Therefore these results suggest that our instrument measuring environmental attitude and behaviour can further be used in future research in Chinese societies.

Acknowledgement.

We gratefully thank Professor Jianhong Ma of Zhejiang University, Peoples' Republic of China for giving us advice on Lisrel analysis and comments on the paper. We also thank Mr. Leung Ping Kwan for his assistance in data collection.

References

- Arbuthnot, J., & Lingg, S. (1975). A comparison of French and American environmental behaviors, knowledge, and attitudes. *International Journal of Psychology*, 10, 275-281.
- Arelrod, L. J., & Lehman, D. R. (1993). Responding to environmental concern: what factors guide individual action? *Journal of Environmental Psychology*, 13, 149-159.
- Berger, I. E., & Corbin, R. M. (1992). Perceived consumer effectiveness and faith in others as moderators of environmentally responsive behaviors. *Journal of Public Policy & Marketing*, 11, 79-89.
- Dillion, P. J., & Gayford, C. G. (1997). A psychometric approach to investigating the environmental belief, intentions and behaviours of pre-service teachers. *Environmental Education Research*, 3, 283-297.

- Hausbeck, K. W., Milbrath, L. W., & Enright, S. M. (1992). Environmental knowledge, awareness and concern among 11th grade students: New York State. *Journal of Environmental Education*, *24*, 27-34.
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). An analysis and synthesis of research on responsible environmental behavior: a meta-analysis. *The Journal of Environmental Education*, *18*, 1-8.
- Joreskog, K. G. and Sorbom, D. (1989). LISREL 7: User's Reference Guide, Scientific Software, Mooresville, IN.
- Kaiser, F. G., Wolfing, S., & Fuhrer, U. (1999). Environmental attitude and ecological behaviour. *Journal of Environmental Psychology*, *19*, 1-19.
- Maloney, M. P., & Ward, M. P. (1973). Ecology: lets hear from the people. An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologists*, *28*, 583-586.
- Maloney, M. P., Ward, M. P., & Braucht, G. N. (1975). Psychology in action: a revised scale for the measurement of ecological attitudes and knowledge. *American Psychologists*, *30*, 787-790.
- Newhouse, N. (1990). Implications of attitude and behavior research for environmental conservation. *Journal of Environmental Education*, *22*, 26-32.
- Schahn, J., & Holzer, E. (1990). Studies of individual environmental concern: the role of knowledge, gender, and background variables. *Environment and Behavior*, *22*, 767-786.
- Sia, A. P., Hungerford, H. R., & Tomera, A. N. (1985/86). Selected predictors of responsible environmental behavior: an analysis. *Journal of Environmental Education*, *17*, 31-40.

- Siu, O. L. (1991). *Report of the Survey on Hong Kong Environmental Protection Attitude*. Goldhall Co. Ltd.
- Siu, O. L. (1992). *Hong Kong Environmental Protection Attitudes, Behaviors, and Knowledge*. Wholetask Co. Ltd.
- Smythe, P. C., & Brooke, R. C. (1980). Environmental concerns and actions: a socio-psychological investigation. *Canadian Journal of Behavioral Sciences*, *12*, 175-186.
- Vining, J., & Ebreo, A. (1992). Predicting recycling behaviour from global and specific environmental attitudes and changes in recycling opportunities. *Journal of Applied Social Psychology*, *22*, 1580-1607.
- Vogel, S. (1996). Farmers' environmental attitudes and behavior: A case study for Austria. *Environment and Behavior*, *28*, 591-613.

Appendix I

Twenty-seven items measuring environmental attitude and behaviour

Affect

- A1. Protecting the environment is everyone's responsibility.
- A2. Raising the standard of living is not one of the reasons to pollute the environment.
- A3. Human beings should not give up the well-being of the world just for the sake of joy and benefit.
- A4. Try every means to protect endangered species even losing some of our benefits.
- A5. Even we have to pay more, we should enforce that restaurants should use paper containers instead of the cheaper plastic containers.

- A6. Behaviour destroying the environment infuriate me.
- A7. Reporting vehicles emitting too much leaded exhaust gas.
- A8. The media should report more news about environmental protection.
- A9. Save energy immediately.

Verbal Commitment

- VC1. I'd be willing to walk or ride a bicycle instead of using cars.
- VC2. I'd be willing to use different means to support green bodies, such as donation.
- VC3. I'd be willing to use recyclable containers to carry products instead of plastic bags.
- VC4. I'd be willing to support paper recycling campaigns.
- VC5. I'd be willing to use non-fire cooking methods.
- VC6. If possible, I'd be willing to use stairs instead of taking lift.
- VC7. I'd be willing to use less plastic utensils.
- VC8. I'd willing to turn on air-conditioners or heaters less.
- VC9. I'd be willing to use less hair spray or mouse.

Actual Commitment

- AC1. I join paper recycling campaigns.
- AC2. I seldom use cars or lift; instead I always walk or riding a bicycle.
- AC3. I buy products in recyclable containers.
- AC4. I report cars emitting excess leaded exhaust gas.
- AC5. I use rechargeable batteries.
- AC6. I use handkerchief instead of tissue paper.

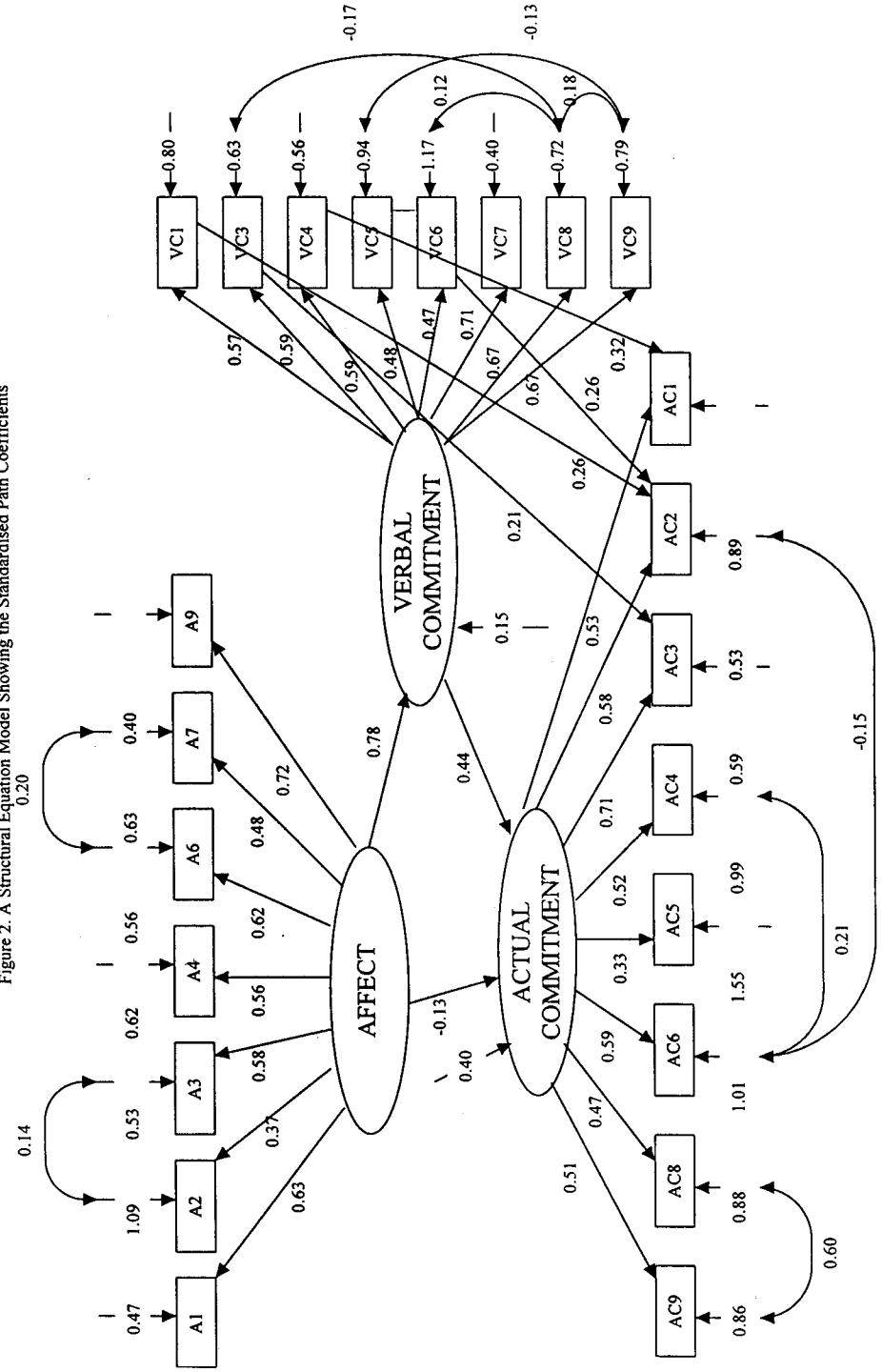
- AC7. I turn off unused electrical appliances.
- AC8. I buy and read ecological publications.
- AC9. I join activities organized by green bodies.

Table 1. Means, Standard Deviations, Reliability Coefficients, and Intercorrelations between Affect, Verbal Commitment, and Actual Commitment

	Affect (A)	Verbal Commitment (VC)	Actual Commitment (AC)
A	—		
VC	.37***	—	
AC	.18**	.36***	—
Mean	43.73	39.44	26.44
SD	7.14	7.15	6.30
Alpha	.70	.73	.78

** $p < .01$ *** $p < .001$

Environmental Attitude and Behaviour in Hong Kong
 Figure 2. A Structural Equation Model Showing the Standardised Path Coefficients



e: Arrows indicate relationship between constructs, and path coefficients represent their strength. Two-sided arrows indicate Pearson correlation coefficients. Measurement errors are indicated with a

Research Fellows

Centre for Asian Pacific Studies

Professor Kueh, Yak-yeow, Director
 Professor Bridges, Brian
 Dr. Chan, Che-po, ATP
 Dr. Cheung, Kui-yin, AEP
 Dr. Fan, C. Simon, ATP
 Dr. Hiroyuki, Imai, AEP
 Mr. Kwok, Hong-kin, ATP
 Dr. Lee, Keng-mun, William, AEP
 Dr. Lei, Kai-cheong, ATP
 Dr. Leung, Kit-fun, Beatrice, AEP
 Dr. Li, Pang-kwong, ATP
 Dr. Ren, Yue, ATP
 Dr. Voon, Thomas, AEP
 Dr. Wei, Xiangdong, AEP
 Dr. Wong, Yiu-chung, ATP

Centre for Public Policy Studies

Professor Ho, Lok-sang, Director
 Dr. Che, Wai-kin, AEP
 Dr. Fan, C. Simon, ATP
 Dr. Law, Wing-kin, Kenneth, ATP
 Dr. Lee, Keng-mun, William, AEP
 Dr. Leung, Kit-fun, Beatrice, AEP
 Dr. Li, Pang-kwong, ATP
 Dr. Lin, Ping, ATP
 Dr. Siu, Oi-ling, ATP
 Dr. Voon, Thomas, AEP
 Dr. Wei, Xiangdong, AEP

All the Research Fellows listed above are staff of Department of Economics, and Department of Politics and Sociology. Interested staff from other academic departments of the University and other institutions are welcome to join the Centres as Research Fellows or Research Associates. Please contact Dr. Raymond Ng (Tel. 2616 7427) for further information.

AEP = Associate Professor
 ATP = Assistant Professor

Working Paper Series

<u>No.</u>	<u>Topic</u>	<u>Author</u>
45 (1/97) CAPS	China and the Prospects for Economic Integration within APEC	Professor Y. Y. Kueh
46 (2/97) CAPS	Export Competition Among China and ASEAN in the US Market: Application of Market Share Models	Dr. Thomas J. Voon and Dr. Xiangdong Wei
47 (3/97) CAPS	Hong Kong's Outward Processing Investment in China: Its Implications on Hong Kong Economy	Dr. Kui-yin Cheung
48 (4/97) CAPS	China - Taiwan's Trade and Investment Relations and their Impact on Taiwan's Income Distribution	Dr. K. C. Lei
49 (5/97) CAPS	Overseas Chinese and Foreign Investment in China: An Application of the Transaction Cost Approach	Dr. C. Simon Fan
50 (6/97) CAPS	Japanese FDI, Exports and Technology Transfer to China	Dr. Elspeth Thomson
51 (7/97) CPPS	Income Protection and the Elderly: An Examination of Social Security Policy in Singapore	Dr. William Keng-mun Lee
52 (8/97) CAPS	Old Ally Versus New Friend: China's Economic Relations with the Two Koreas	Dr. Brian Bridges
53 (9/97) CAPS	Hong Kong as a Financial Centre of Greater China	Professor Y. C. Jao
54 (10/97) CAPS	The Economic Link-up of Hong Kong and Guangdong: Structural and Developmental Problems	Professor Shu-ki Tsang and Dr. Yuk-shing Cheng
55 (11/97) CPPS	Electoral Cleavages and the Post-1997 Hong Kong's Political Dynamics	Dr. Pang-kwong Li
56 (12/97) CPPS	A Study of Occupational Stress, Job Satisfaction, and Quitting Intention in Hong Kong Firms: The Role of Locus of Control and Organizational Commitment	Ms. Oi-ling Siu
57 (13/97) CPPS	A Model of Human Nature and Personal Development	Professor Lok-sang Ho
58 (14/97) CPPS	Wage Compensation for Job Risks: The Case of Hong Kong	Dr. W. S. Siebert and Dr. Xiangdong Wei
59 (15/97) CPPS	Positive Effects of Modernization on Later Life	Dr. Kenneth W. K. Law
60 (16/97) CPPS	Filial Piety and Caregiving Burden in Shanghai, People's Republic of China	Professor William T. Liu, Professor Elena S. H. Yu, Professor Shang-Gong Sun and Professor Yin Kean

<u>No.</u>	<u>Topic</u>	<u>Author</u>	<u>No.</u>	<u>Topic</u>	<u>Author</u>
61 (17/97) CPPS	How to Help the Rehabilitated Drug Abusers Not to Relapse to Drugs Again? A Successful Case - Hong Kong	Dr. Wai-kin Che	76 (4/98) CPPS	Symbolic Boundaries and Middle Class Formation in Hong Kong	Ms. Annie H. N. Chan
62 (18/97) CPPS	The Value of Time and the Interaction of the Quantity & the Quality of Children	Dr. Chengze Simon Fan	77 (5/98) CPPS	Urbanization in Sha Tin and Tuen Mun - Problems and Coping Strategies	Mr. Hong-kin Kwok and Mr. Shing-tak Chan
63 (19/97) CPPS	Generational Dependency and Elderly Care: A Psychological Interpretation of Cultural Norms and Exchange	Dr. Ying-yi Hong and Professor William T. Liu	78 (6/98) CAPS	Coping with Contagion: Europe and the Asian Economic Crisis	Dr. Brian Bridges
64 (20/97) CPPS	Living Arrangements and Elderly Care: The Case of Hong Kong	Professor Rance P. L. Lee, Dr. Jik-Joen Lee, Professor Elena S. H. Yu, Professor Shang-Gong Sun and Professor William T. Liu	79 (7/98) CAPS	New World Order and a New U.S. Policy Toward China	Professor James C. Hsiung
65 (21/97) CPPS	The Social Origin of Alzheimer's Disease: A Path Analysis	Professor William T. Liu and Professor Shang-Gong Sun	80 (8/98) CPPS	Poverty Policy in Hong Kong: Western Models and Cultural Divergence	Dr. William Lee and Professor John Edwards
66 (22/97) CAPS	Country of Origin Rules: Its Origin, Nature and Directions for Reform	Professor Lok-sang Ho	81 (9/98) CAPS	The Paradox of Hong Kong as a Non-Sovereign International Actor	Professor James C. Hsiung
67 (23/97) CAPS	A Long Term Monetary Strategy for Hong Kong and China	Professor Lok-sang Ho	82 (10/98) CAPS	Political Impacts of Catholic Education in Decolonization: Hong Kong and Macau	Dr. Beatrice Leung
68 (24/97) CPPS	Are Union Jobs Worse? Are Government Jobs Better?	Professor John S. Heywood, Professor W. S. Siebert and Dr. Xiangdong Wei	83 (11/98) CAPS	The Rise and Fall of the HK Economy	Professor Lok-sang Ho
69 (25/97) CPPS	Restructuring the Party/state Relations: China's Political Structural Reform in the 1980s	Dr. Yiu-chung Wong	84 (12/98) CAPS	中國貿易保護代價的測算：方法、結論和意義	張曙光教授
70 (26/97) CPPS	Estimating British Workers' Demand for Safety	Dr. Xiangdong Wei	85 (13/98) CAPS	中國居民收入差距的擴大及其原因	趙人偉教授、李實教授
71 (27/97) CPPS	Managerial Stress in Hong Kong and Taiwan: A Comparative Study	Ms. Oi-ling Siu, Dr. Luo Lu and Professor Cary L. Cooper	86 (14/98) CAPS	The Labor Income Tax Equivalent of Price Scissors in Pre-Reform China	Dr. Hiroyuki Imai
72 (28/97) CPPS	Teaching Social Science in the East Asian Context	Professor William T. Liu	87 (15/98) CPPS	Complementarity, Investment Incentives, and Evolution of Joint Ventures	Dr. Ping Lin and Dr. Kamal Saggi
73 (1/98) CPPS	Interpreting the Basic Law with Chinese Characteristics	Professor James C. Hsiung	88 (16/98) CPPS	A Theory of Health and Health Policy	Professor Lok-sang Ho
74 (2/98) CPPS	Worker Participation and Firm Performance: Evidence from Germany and Britain	Professor John T. Addison, Professor W. Stanley Siebert, Professor Joachim Wagner and Dr. Xiangdong Wei	89 (1/99) CPPS	Towards a New International Monetary Order: The World Currency Unit and the Global Indexed Bond	Professor Lok-sang Ho
75 (3/98) CPPS	The Nature of Optimal Public Policy	Professor Lok-sang Ho	90 (2/99) CPPS	Age Differences in Work Adjustment: A Study of Male and Female Managerial Stress, Coping Strategies and Locus of Control in Hong Kong	Dr. Oi-ling Siu, Professor Paul E. Spector, Professor Cary L. Cooper, Dr. Kate Sparks and Dr. Ian Donald
			91 (3/99) CAPS	A Comparative Study of Managerial Stress in Greater China: The Direct and Indirect Effects of Coping Strategies and Work Locus of Control	Dr. Oi-ling Siu, Professor Paul E. Spector, Professor Cary L. Cooper, Dr. Luo Lu and Dr. Shanfa Yu

<u>No.</u>	<u>Topic</u>	<u>Author</u>
92 (4/99) CPPS	Implementing Efficient Allocations in a Model of Financial Intermediation	Professor Edward J. Green and Dr. Ping Lin
93 (5/99) CPPS	R & D Incentives in Vertically Related Industries	Dr. Samiran Banerjee and Dr. Ping Lin
94 (6/99) CAPS	Testing for a Nonlinear Relationship among Fundamentals and Exchange Rates in the ERM	Dr. Yue Ma and Dr. Angelos Kanas
95 (7/99) CPPS	Health Care Delivery and Financing: in Search of an Ideal Model - Reflections on the Harvard Report	Professor Lok-sang Ho
96 (8/99) CPPS	A Structural Equation Model of Environmental Attitude and Behaviour: The Hong Kong Experience	Dr. Oi-ling Siu and Dr. Kui-yin Cheung

Record of working papers prior to 1997 is available at the Centre homepages: <http://www.ln.edu.hk/caps/> and <http://www.ln.edu.hk/cpps/>.