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When Self-Help Materials Help: Examining the Effects of Self-Discrepancy and Modes of Delivery of Positive Self-Statements

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When Self-Help Materials Help: Examining the Effects of Self-Discrepancy and Modes of Delivery of Positive Self-Statements

Self-help materials inculcating individuals with positive self-statements are popular in recent years, although the effectiveness of such self-statements on improving individuals' psychological well-being has not yet been confirmed. Using a control-group pretest-posttest design, we examined how positive self-statements may or may not benefit individuals' mood. Individual characteristics and modes of delivery were found to moderate mood changes resulting from positive self-statements. Specifically, we found that participants experienced negative mood change after reading positive self-statements, if they have low level of need satisfaction. However, we also found that participants experienced a mood boost after listening to positive self-statements, and this effect was unrelated to self-esteem or need satisfaction. These findings suggest that self-help materials with a focus on positive self-statements should be used with caution.

Keywords: positive self-statement, mood, self-discrepancy, modes of delivery

Introduction

In the field of positive psychology, positive affect is considered to be important for one's well-being. Research showed that positive affect relates to better functioning, such as lower levels of depression and absenteeism from work (Greenglass & Fiksenbaum, 2009). Finding out ways to boost positive affect is thus a priority in the agenda of improving people's subjective well-being. Apart from scientific research endeavors by psychologists, other attempts have also been made by practitioners in folk psychology to find the 'golden key' to mood enhancement.

Self-help materials aiming to guide people to live a better life have become more and more popular in recent years. The premise of these materials is that people can live a 'happier' life by changing the ways in which they think. For example, 'The Power of Positive Thinking', one of the best-selling self-help books in the market, claims that people

can lead a better life by applying the ‘practical technique’ of repeating and internalizing positive self-statements such as ‘I believe I can successfully handle all the problems that will arise today’ (Peale, 1952). Likewise, another best-selling self-help book, ‘The Secret’ (Byrne, 2006), asserts that exposure to positive self-statements would benefit people in different domains of life.

Instead of consulting with professional psychologists, using self-help materials as a guide has long become an acceptable way for people to improve well-being. Self-help materials, such as ‘The Secret’, have reached a worldwide audience, so the use of such materials is not limited to people in Western cultures. The success of these self-help materials may be attributed to their high accessibility and low cost compared to professional help (Starker, 1989). Despite the popularity of these self-help materials, their effectiveness has not been fully examined through systematic, empirical research, particularly among non-Western populations. In this paper, we aim to examine how exposure to positive self-statements such as those prevalent in popular self-help materials may or may not benefit people in the Asian cultural context.

Effectiveness of Positive Self-Statements

Psychologists and researchers have been skeptical of the effectiveness of self-help materials and positive self-statements in boosting positive affect. Martin Seligman, the founder of Positive Psychology, distinguished the ‘so-called power of positive thinking’ of popular self-help materials from positive psychology (Seligman, 2002, p. 96). He criticized that the former encourages people to believe in upbeat positive self-statements as possessing some kind of magical power, even in the absence of supporting rationales or in the face of contradicting evidence. Ellis (1993), one of the founders of rational emotive behavior therapy, opposed self-help materials due to their encouraging people to be irrational and

disapproving of hard-work. By being overly optimistic and expecting miraculous results, he argued that the users of these materials are likely to experience ‘grim disillusionment’ (p. 355). Nevertheless, Ellis also admitted that self-help materials might benefit some people, for example, those who are responsive to self-help materials in the forms of audio- and video-tapes, and those who refuse or are ashamed of going to formal therapy. In order to validate the effectiveness of self-help materials, Ellis (1993) emphasized the importance of examining the reliability and validity of such materials with pretest-posttest design.

In examining the effectiveness of positive self-statements, researchers investigated the effectiveness and potential threat of repeatedly reading out (Wood, Perunovic, & Lee, 2009) or writing positive self-statements (Hames & Joiner, 2012). Both of these studies showed that self-esteem plays an important role in moderating the effectiveness of positive self-statements. Specifically, Wood et al.’s (2009) study revealed that for those who have low self-esteem, they experienced a lower mood state after repeatedly reading out positive self-statements compared with their counterparts with high self-esteem; Hames and Joiner (2012) found that those who were low in self-esteem experienced a decrease in negative affect when they wrote about their favourite activity, compared with those who wrote something reflective about positive self-statements, while this pattern did not exist among the participants with high self-esteem. However, these studies did not examine how the typical consumption methods of self-help materials – that is, reading self-help books and listening to self-help audiobooks – may make a difference to the effectiveness of positive self-statements. It is also not known how these ways of consumption may work better or worse with different individuals. Therefore, the present study is designed to fill this gap in the literature.

Wood et al. (2009) predicted that after being exposed to positive self-statements, people with lower self-esteem would experience lower levels of pleasant mood than those with higher self-esteem. The researchers asked participants to repeatedly read out self-

affirmative statements, such as 'I am a lovable person', and then measured their levels of positive mood afterwards. Wood et al. (2009) found that participants with low self-esteem indeed felt worse after repeatedly reading out positive self-statements compared to their counterparts who did not read out any statements in the experiment.

The findings of Wood et al.'s (2009) study demonstrated the potential problem of consuming positive self-statements: people with low self-esteem experience negative, rather than positive, mood change after reading out positive self-statements. However, there are two issues in the design of that study that may have weakened this conclusion drawn. Firstly, the procedure applied to the control group was not directly comparable with that to the experimental group, as the control group lacked the procedure of reading out any material. The difference in individuals' mood between the two conditions may thus be attributed to whether the person had gone through the action of read out something, instead of whether they had been exposed to positive self-statements. Secondly, the dependent measure was only a posttest measure of positive mood but not the change in mood. The lack of a pretest measure makes it difficult to rule out the possibility that the baseline mood state of the participants may have made a difference to the results.

The Role of Self-Discrepancy

Wood et al. (2009) suggested that the discrepancy between one's self-concept and the ideals being presented by the statements explains why reading out positive self-statements leads to negative mood change among individuals with low self-esteem. According to Wood et al. (2009), if the suggested attitude in a positive self-statement is far too different from one's own attitude, the receiver of such statements tends to reject them (Eagly & Chaiken, 1993). It is likely that a receiver of positive self-statements would compare the statements with their own self-concepts. If the statements fit their self-concepts, individuals would more readily

accept these statements; otherwise, they reject the statement and negative mood change may occur as a result (Eisenstadt & Leippe, 1994).

This explanation is consistent with Higgins' (1987) self-discrepancy theory. Higgins (1987) observed that if an individual's self-concept is inconsistent with his/ her ideal-self, ought-self, or self-guide, the individual would feel sad and disappointed. Higgins (1987) also highlighted that self-discrepancy is not necessarily the same as low self-esteem, although the two are usually associated with one another. In some situations, self-esteem may be a direct indicator of the actual-ideal discrepancy in self-evaluation. However, Higgins (1987) argued that self-discrepancy can also occur without involving self-esteem. When self-guides, the self-directive standards for being, are contradictory to one's self-concepts, one might also experience negative affects such as depression or anxiety as a result, regardless of self-esteem.

The use of self-esteem measures to indicate self-discrepancy may be problematic in samples of Asian cultural backgrounds. People from Asian cultures typically report lower level of self-esteem than Westerners (Schmitt & Allik, 2005). Research suggests that this difference may be due to Asians being less inclined to appraise themselves in an excessively positive manner as a result of stronger cultural norms of modesty, though they do not necessarily feel any less positively about themselves in contrast to their Western counterparts (Cai, Brown, Deng, & Oakes, 2007). More importantly, these findings suggest that self-esteem measures may not be a desirable indicator of self-discrepancy in examining the effectiveness of positive self-statements among Asian samples.

Extending from Higgin's (1987) idea, another way to capture self-discrepancy is to examine how an individual assesses his or her status quo with reference to their perceived standards. We suggest that self-discrepancy may be reflected in one's evaluation of the extent

to which their various needs are being satisfied, that is, the lower the level of needs satisfaction, the higher the level of self-discrepancy. We expect that people who report lower level of need satisfaction are more likely to detect a difference between their actual self and the ‘ideal self’ promoted by positive self-statements, which then result in negative mood change.

In the present study, we will adopt a self-esteem measure to examine the effect of self-discrepancy as was done in previous studies (e.g., Wood et al., 2009). However, in view of the putative cultural bias related to the self-esteem measure, we will also include need satisfaction as an indicator of self-discrepancy. We predict that for those who have low self-esteem, or those who score low in need satisfaction, their levels of positive mood would significantly drop after being exposed to positive self-statements.

The Role of Modes of Delivery

Another factor that can influence the effectiveness of positive self-statements on individuals' mood change is the modes of delivery of the statements. Self-help materials are usually delivered in the form of self-help books or audio materials. It is possible that reading self-help books and listening to self-help materials may have different effects on individuals. Olejnik (1978) summarized the differences between reading and listening in terms of levels of information processing. In the reading process, the text must be translated from visual code to verbal code before being processed as information. Unlike reading, in the listening process, the same materials are already presented in the verbal code; it is therefore not necessary that the information is processed in a deep way. More importantly, a reader can easily go back, skim, and selectively concentrate on the materials that have caught his or her attention, whereas a listener cannot recheck the word and can solely rely on his or her memory of the materials. A listener can only process information from an audio recording at

a relatively superficial level, but a reader can selectively focus on the information for deeper information processing.

Because of the difference in the levels of processing, any discrepancy between the positive self-statements and the receiver's self-concept may more likely be detected when these statements are presented in text, in contrast to in audio recordings. When positive self-statements are presented in auditory mode, participants may only engage in superficial information processing of those statements, such as the literal meaning of the statements or the quality of the presenter's voice. However, they may not be able to compare these statements with their own self-concept, making discrepancies, if any, to be undetectable.

Another hypothetical explanation of why people experience a mood enhancement after listening to positive self-statements is to consider the process as one of persuasion – namely, people are persuaded to think positively by these statements. Chaiken and Eagly (1976) observed that if a message is easy to understand, the effectiveness of persuasion would be greater when the message is audiotaped rather than written. People are more likely to accept the suggestions of positive self-statements delivered in auditory mode because the receivers' critical attitudes toward the message may be lessened or distracted by the vocal cues or the perceived image of the speaker.

Therefore, we predicted that the modes of delivery of positive self-statements would make a difference in people's mood change as a result. For those who read the positive self-statements, they would be more likely to experience drop in positive mood, whereas for those who listened to the positive self-statements, they would be less likely to experience self-discrepancy and hence be more likely to experience mood enhancement.

Summary of the Present Study

In this study, we aim to examine the effectiveness of positive self-statements on individuals' mood change by adopting a control-group pretest-posttest design in the Hong Kong Chinese context. We will also examine the roles of self-discrepancy and the modes of delivery on the effects of positive self-statements. It is expected that the present study will provide empirical evidence that argues the need for more critical evaluation about the use of self-help materials.

Method

Participants

Two hundred and eighty-four Hong Kong Chinese university students (205 women, 79 men, $M_{age} = 20.1$, $SD_{age} = 1.69$, age range: 17-26 years) were recruited. Participants were reached through recruitment posters and mass emails on campus. The study was framed as a research on social injustice, which was justifiable as the filler items in the questionnaire are related to topics related to justice perception. Thus, the recruitment materials did not specify or implicate anything about our research hypothesis on mood changes. To enhance participation rate, a small token worth HKD30 was used as an incentive.

Design

To examine the effects of positive self-statements and the modes of delivery of these statements on participants' mood changes, we set up four experimental conditions by varying the message content and modes of delivery. Each participant was randomly assigned to one of these conditions: (1) reading 20 positive self-statements in text (text, positive-self-statements condition); (2) listening to the same 20 positive self-statements from an audio recording (audio, positive-self-statements condition); (3) reading 20 control items in text (text, control condition); and (4) listening to the same control items from an audio recording

(audio, control condition).

Materials

Twenty positive self-statements were selected from a popular self-help book 'The Secret' (Byrne, 2006). These statements were selected on the basis that they include instructions to readers to focus on self-relevant positive ideas, for example, 'Begin right now to shout to the universe, "Life is so easy! Life is so good! All good things come to me!"' (p. 41). Other sample statements include 'I am a money magnet' and 'I feel wonderful. I feel so good'. A complete list of the 20 statements may be obtained from the authors upon request. In the text condition, participants read the positive self-statements written in the first person form. In the audio condition, participants listened to an audio recording of a young female voice reading out the same statements in the second person form, for example, 'You are a money magnet' and 'Life is so easy! Life is so good! All good things come to you'. Similarly, text and audio materials were prepared using the Social Axioms Survey (Leung et al., 2002) items for the control conditions; sample items include 'Human behaviour changes with the social context', and 'Most disasters can be predicted'. The Social Axioms Survey was chosen as control material because the measure focuses on people's general beliefs about the world rather than self-related perception (Leung et al., 2002). The Chinese version of the Social Axioms Survey items was used. All other materials, including the questionnaire measures described below, were translated from their original English version into Chinese. Back-translation was conducted to ensure the comparability between the two versions.

Measures

Mood

The Scale of Mood Congruent Judgment (MCJ; Mayer & Hanson, 1995) was used in this

research. According to Mayer and Hanson (1995), when people are in a pleasant mood, they tend to make positive judgments about concepts and events, and vice versa. Instead of asking participants to directly report their mood states, measuring the extent to which one makes positive judgments can be an unobtrusive way to capture his or her pleasant-unpleasant mood states.

Based on these ideas, Mayer and Hanson (1995) designed the MCJ for measuring mood in a non-obtrusive, indirect manner. Previous researchers have also shown that this scale is sensitive to experimental manipulation for measuring the changes in thought pattern (e.g. Mayer & Hanson, 1995; Wilson, Meyers, & Gilbert, 2001). This scale has two comparable 12-item forms: MCJ-A and MCJ-B. The scores on these two forms can be used to capture mood change before and after experiment conditions. Each form consists of three 4-item subscales, namely, Probability, Salience, and Category, the scores of which range from 1 (unpleasant) to 7 (pleasant), as described below.

The Probability subscale consists of four items that require participants to rate the probability of different events using a scale of seven choices (i.e., 0%-10%, 11%-20%, 21%-40%, 41%-60%, 61%-80%, 81%-90%, & 91%-100%). With pleasant events (e.g., ‘What is the probability that a 30-year-old will be involved in a happy, loving romance?’), the chosen probability is coded from 1 to 7; with unpleasant events (e.g., ‘the probability of a nuclear war’), the chosen probability is coded from 7 to 1. Higher scores in this subscale indicate more pleasant mood.

For the Salience subscale, participants are required to rate the extent of thoughts, images, and associations that are brought to mind by a target word (e.g., ‘wisdom’ or ‘fail’) using 7-point Likert scale (1 = very few, 7 = a great deal). Negative items are reverse scored, so that higher scores in this subscale indicate more pleasant moods.

The Category subscale requires the respondents to choose one typical example of a concept among three given choices. For example, participants may be asked to choose ‘the most typical example of a type of personality’ among the choices of ‘depressed; anxious; fulfilled’. All alternatives in each of the item in the Category subscale were pre-rated prior to the experiment for their level of ‘pleasantness’ by 32 independent judges using a 7-point Likert scale (1 = unpleasant, 7 = pleasant). Accordingly, each response carried a value of ‘pleasantness’ which was summed up to indicate the participants’ inclination to choose a pleasant alternative among these items.

Although this scale included items with three different kinds of response format, the split-half reliability of this scale was found to be acceptable, ranging from .61 to .63 (Mayer & Hanson, 1995). It was also correlated with direct measures of mood such as the Brief Mood Introspection Scale (Mayer & Hanson, 1995), positively correlated with happy mood and optimism, and negatively correlated with feelings of anger, sad, guilt, and the neuroticism personality trait (Mayer, Gaschke, Braverman, & Evans, 1992).

Self-esteem

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) was used to capture self-esteem. The scale composes of five positively worded and five negatively worded items about a person’s self-evaluation. Sample items include, ‘On the whole, I am satisfied with myself’ (positive) and ‘I certainly feel useless at times’ (negative). This 10-item scale was translated into Chinese (Yeung, 1998, Alpha = .76). Participants were asked to rate each item using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability of the RSE for this sample was good, with Cronbach’s Alpha = .87.

Need Satisfaction

Five, 11-point semantic-differential-scale items were employed to capture participants’

general need satisfaction. The needs being measured included the needs for 'existence' (10 = 'Feel completely secure about the state of my health'; 0 = 'Often feel worried about my health' & 10 = 'Feel completely secure about being able to afford basic necessities'; 0 = 'Worry constantly about being able to provide basic necessities'), 'relatedness' (10 = 'Complete recognition and respect from others'; 0 = 'Completely ignored by others' & 10 = 'A life full of love, warm friendships, and good family relations'; 0 = 'A life without love, friends, and warmth'), and 'growth' (10 = 'Satisfied that I'm realizing my fullest potential in life'; 0 = 'Just about given up hope I'll ever get to do anything important or worthwhile'). The scale showed good reliability for the current sample, with Alpha = .75.

Procedure

To avoid the possible variation of scores due to the two MCJ forms, we counterbalanced the order in administering the MCJ forms. We administered the MCJ-A first to approximately half of the participants ($n = 131$), and the MCJ-B first to the remaining participants ($n = 153$). Participants were randomly assigned to one of eight groups (4 conditions \times 2 sequences of the MCJ forms). In all groups, participants first filled in either the MCJ-A or MCJ-B, which preceded a 9-page questionnaire containing questions about basic demographic information, the RSE, the need satisfaction scale, and other filler questions.

After finishing the questionnaire, participants in the text, positive-self-statements condition received a paper on which one side was printed with the 20 positive self-statements and the other side was printed with the alternative corresponding version of the MCJ form (i.e. participants who initially filled out an MCJ-A then had to fill out an MCJ-B, and vice versa). The participants were instructed to finish reading the positive statements before filling in the MCJ-form on the other side. Similarly, participants in the text, control condition

also received a paper with items printed on both sides, except that the 20 positive self-statements were replaced by 20 social axioms items.

Participants in the audio, positive-self-statements condition received a single-sided paper printed only with the corresponding form of the MCJ face-down. They were instructed not to turn over the paper until they had listened to the audio-recording of the 20 positive self-statements. Similarly, participants in the audio, control condition also received a paper with the corresponding form of the MCJ printed on one side and were instructed to fill in the form only after listening to the recording of the 20 social axioms items.

In all experimental conditions, participants were instructed by the general description, 'Please [read/listen to] the following sentences carefully', which does not indicate the nature of the experiment materials. The use of general description minimizes potential priming or expectancy effects toward the experimental materials.

Results

As the MCJ scores were derived by summing up items with heterogeneous response format, listwise deletion was adopted in the analysis. Twenty-three participants (8.1%) failed to answer all questions in the MCJ scale and whose data were excluded from further analysis. Thus, the final sample consisted of 261 participants (91.9%).

The mean score of the MCJ-A was 3.94 ($SD = .39$) while that of the MCJ-B was 4.30 ($SD = .38$). Following the procedures adopted by Mayer and Hanson (1995), we standardized the scores of the MCJ-A and MCJ-B, for the purposes of conducting pretest-posttest comparisons. The use of standard scores was justifiable as it produces an informative 'longitudinal test of mood-congruent judgment' despite the different mean scores of the two forms (Mayer & Hanson, 1995, p. 240).

Prior to conducting the main analysis, we examined the potential effect of gender on the key variables. It was found that there was no significant gender effect on the standardized MCJ-A score ($t(266) = 1.24, p = .21$), self-esteem ($t(280) = -.10, p = .92$), and need satisfaction ($t(281) = 1.18, p = .24$). However, the standardized MCJ-B score showed statistically significant differences between genders, $t(266) = 2.03, p = .04$. Thus, all analyses were conducted with gender being included as covariate.

Additionally, the baseline characteristics of participants were compared using one-way ANOVAs to ensure that there were no pre-existing differences in the levels of self-esteem, need satisfaction, and mood across the four conditions. No significant between-group differences were found in self-esteem ($F(3,278) = .12, p = .95$), need satisfaction ($F(3,279) = .67, p = .58$), and baseline mood ($F(3,262) = .51, p = .68$).

The Effects of Modes of Delivery

To examine the effects of the modes of delivery of positive self-statements on mood change, repeated measures ANOVA was conducted on the standardized pretest-posttest MCJ scores. The within-subjects variables were the pre-test and post-test standardized MCJ scores, and the between-subjects factors were the four conditions (i.e., reading/ listening to positive self-statements and reading/ listening to control items).

The main effect of pretest-posttest MCJ scores was not significant ($F(1,256) = .01, p = .92$), nor was the effect of gender ($F(1,256) = .001, p = .97$). A significant interaction effect was found between pretest-posttest MCJ scores and conditions ($F(3,256) = 4.83, p = .003, \eta_p^2 = .05$), suggesting that the change in MCJ scores varied as a function of the different experimental conditions. Post-hoc analyses showed that the changes in MCJ scores in both text and audio positive self-statements conditions were statistically significant. In contrast, the changes in MCJ scores in both control conditions were not significant (see Table 1). The

effect sizes (Cohen's *d*, Laken, 2013) of the differences between the pre- and post-MCJ scores in each condition are also shown in Table 1. Specifically, participants in the text, positive-self-statements condition experienced significant decline in mood, while participants in the audio, positive-self-statements condition experienced positive mood change. Figure 1 depicts the change in MCJ scores across the four conditions. These findings show support to the hypothesis that modes of delivery of positive self-statements influence the mood change of the receivers of these statements.

Testing the Effect of Self-Discrepancy on Reading Positive Self-Statements

We hypothesized that when reading the positive self-statements, participants would be more likely to experience mood drop because of self-discrepancy. Repeated measures ANOVA was conducted to examine this hypothesis.

Low self-esteem as the indicator of self-discrepancy

The average self-esteem score of the sample in the reading conditions was 3.28 (*SD* = .64). High and low self-esteem groups were created by taking scores 0.5 *SD* above and below the mean respectively. A $2 \times 2 \times 2$ (pretest-posttest MCJ scores [pre-test, post-test] \times conditions [reading positive self-statements versus reading control items] \times self-esteem groups [high self-esteem versus low self-esteem]) repeated measures ANOVA was conducted. The 3-way interaction among the three variables was not significant ($F(1, 84) = .09, p = .76$), which fails to show support to the notion that the level of self-esteem makes a difference to the effect of reading positive self-statements on individual's mood change. However, as discussed in the Introduction, self-esteem may not be a good indicator of self-discrepancy among Asian sample. Therefore, we further examine the effect of low need satisfaction as the indicator of self-discrepancy in the following analysis.

Low need satisfaction as the indicator of self-discrepancy

High and low need satisfaction groups were created by taking scores 0.5 *SD* above and below the mean respectively. The average need satisfaction score of the reading sample was 6.08 (*SD* = 1.40). To test the hypothesis, a $2 \times 2 \times 2$ (pretest-posttest MCJ scores [Pre-test, Post-test] \times conditions [text, positive-self-statements versus text, control] \times need satisfaction groups [high need satisfaction versus low need satisfaction]) repeated measures ANOVA was used. There was no significant main effect of the pretest-posttest MCJ scores, $F(1, 83) = 1.82, p = .19$. The 2-way interaction effect of condition \times pretest-posttest MCJ scores ($F(1, 83) = .99, p = .32$) and that of condition \times need satisfaction groups ($F(1, 83) = 1.46, p = .23$) were all not significant. Only the 3-way interaction of pretest-posttest MCJ scores \times condition \times need satisfaction group was statistically significant, $F(1, 83) = 4.83, p = .03, \eta_p^2 = .06$ (See Figure 2), which shows support to the hypothesis. Paired-sample t-tests showed that only the mood drop of the group with low need satisfaction was statistically significant with large effect size, $t(16) = 2.52, p = .02, d = .72$. Table 2 summarizes the results of these analyses.

These results showed that need satisfaction moderated the effect of reading positive self-statements on mood changes: those with low need satisfaction experienced significant mood drop, while those who had high need satisfaction experienced no significant change in mood.

Testing the Effect of Self-Discrepancy on Listening to Positive Self-Statements

Repeated measures ANOVA analyses were conducted to test the effect of self-discrepancy on listening to positive self-statements.

Low Self-esteem as the indicator of self-discrepancy

The average RSE score of the participants in the audio conditions was 3.29 ($SD = .65$). High and low self-esteem groups were created by taking scores 0.5 SD above and below the mean respectively. A $2 \times 2 \times 2$ (pretest-posttest MCJ scores [Pre-test, Post-test] \times conditions [audio, positive-self-statements versus audio, control] \times self-esteem groups [high self-esteem versus low self-esteem]) repeated measures ANOVA was conducted. It was found that the 3-way interaction effect of pretest-posttest MCJ scores \times conditions \times self-esteem groups ($F(1, 67) = .97, p = .33$) was not significant, suggesting that self-esteem does not have significant effect on the participants' mood change in response to listening to positive self-statements.

Low Need satisfaction as the indicator of self-discrepancy

The average need satisfaction score was 5.93 ($SD = 1.27$) in the sample in the audio conditions. High and low need satisfaction groups were created by taking scores 0.5 SD above and below the mean respectively. A $2 \times 2 \times 2$ (pretest-posttest MCJ scores [Pre-test, Post-test] \times conditions [audio, positive-self-statements versus audio, control] \times need satisfaction groups [high need satisfaction versus low need satisfaction]) repeated measures ANOVA was conducted. It was found that the 3-way interaction of pretest-posttest MCJ scores \times conditions \times need satisfaction groups ($F(1, 77) = .51, p = .48$) was not significant, indicating that need satisfaction did not moderate the effect of listening to positive self-statement on mood change. In sum, while participants showed increases in mood after listening to positive self-statements, the change was unrelated to their levels of self-esteem or need satisfaction.

Discussion

The cautionary note of using self-help materials in popular psychology has a long history, dated from Ellis (1993) to more recent positive psychology research (Schueller & Parks,

2014). These researchers noticed that the majority of self-help materials is not based on scientifically supported principle. In this research, we adopted a control-group pretest-posttest experimental design to examine the claim that exposure to positive self-statements would make people feel happier and think more positively. Our results showed that self-discrepancy as indicated by low level of need satisfaction of a person, and the modes of delivery of the positive self-statements, could lead to different outcomes in terms of mood change.

The Effect of Self-Discrepancy

As predicted by self-discrepancy theory (Higgins, 1987), we found that participants with low need satisfaction experienced significant mood drop after reading positive self-statements, with considerable effect size. Our findings echo Wood et al.'s (2009) conclusion that positive self-statements harm those who have lower self-esteem, which was then treated as indicator of self-discrepancy. In the present Hong Kong Chinese sample, using need satisfaction as indicator of self-discrepancy show similar results of the harmful effect of reading positive self-statements. The present findings, together with Wood et al.'s findings among the American sample, suggest that the harmful effect of positive self-statements among those with low self-regard may be culturally universal.

On the other hand, Wood et al. (2009) found that individuals with high self-esteem benefit from reading positive self-statements, but our data do not show such pattern. It is possible that the modesty norms in Chinese culture (Cai et al., 2007) attenuate the potentially positive effect of reading positive self-statements among those with higher self-esteem or higher need satisfaction in the present study, as the cultural modesty norms might prompt individuals to pay more attention on the differences between their actual selves and the presented positive self-statements. Future research on the effects of self-help materials or

positive self-statements will benefit from cross-cultural research design, so that the influence of cultural norms, such as the modesty norms, may be more thoroughly examined.

In the present research, participants with lower level of need satisfaction experienced mood drop after reading positive self-statements, suggesting that the use of self-help materials from ‘popular psychology’ as an alternative to psychotherapy should be done with caution. It is important to be vigilant about the effect of these kinds of commercial materials on the mental health of the general public.

A recent case in point is the increasing number of suicide cases at the ‘Bridge of Life’ in Seoul, South Korea (Strother, 2012; Woo, 2013). After a makeover with positive statements painted on the bridge (e.g., ‘The most shining moment of your life has yet to come’; ‘Tomorrow's sun will rise’), the number of people attempted to commit suicide on the bridge rose more than four times. Psychiatrists in Korea observed that displaying positive messages could be counterproductive as the messages may make someone feel worse, while providing alternatives of actual supports would be more helpful (Strother, 2012). This observation echoes the findings in our present research.

Our findings also show support to Killam and Kim's (2014) claim that recent trends in ‘popular psychology’ such as the ‘power-of-positive-thinking movement’ or ‘The Secret’ can be harmful because of their focuses on unrealistic positive thinking. This argument is supported by the observation that unrealistic positive self-perception leads to various undesirable outcomes such as higher level of depression (Kim & Chiu, 2011). Thus, Killam and Kim (2014) maintained that positive psychological interventions must avoid encouraging people to engage in unrealistic positive thinking; instead, people should be encouraged to learn to build realistic self-concepts, to identify the discrepancies between their realistic and ideal selves, and to learn to build bridge between the gap.

The Effect of the Modes of Delivery

In this research, we also provide a new perspective to examine the effectiveness of self-help materials by comparing the differential effects of reading and listening to positive self-statements on people's mood change. We found that participants who listened to positive self-statements experienced mood enhancement, whereas those who read the positive self-statements experienced mood drop. Consistent with Ellis's suggestion (1993), the modes of delivery being used to promote positive thinking do make a difference to the receivers of such ideas.

The present findings provide primary support to our suggestion that the levels of information processing affect how positive self-statements work to influence people's mood. Upon reading positive self-statements, only the participants with low need satisfaction experienced significant mood drop. In contrast, upon listening to positive self-statements, levels of need satisfaction do not moderate the change in mood among the participants. This finding lends support to the idea that reading encourages deeper processing of information than listening, such that people with low need satisfaction are more likely to detect self-discrepancy when reading than listening to positive self-statements.

While the present findings showed that listening to popular self-help materials may benefit people by boosting one's mood, one should be reminded that positive feeling is only part of the goals of positive psychological interventions (Sin & Lyubomirsky, 2009) – it would be important to examine how to enhance psychological well-being in the long run.

Limitations and Future Research Directions

Several aspects of this research may be improved to further our understanding about the working mechanisms of positive self-statements or self-help materials. The positive self-statements used in this paper were selected from a popular self-help book (Byrne, 2006).

Given the broad coverage of the book, the themes promoted in the selected statements were quite different from one another: some promoted self-affirmation, while others promoted ideas related to financial or career successes. It is possible that positive self-statements with different focuses might induce self-discrepancy in different kinds of people. For example, people who value financial competence more may experience stronger effects from statements that focus on financial success than statements that focus on self-affirmation. Future studies will benefit our understanding about self-help materials by examining the ‘fit’ of specific positive self-statements to individuals’ different value systems. This line of study would also help us to ensure the appropriate use of self-help materials by different individuals.

Although mood-congruent judgment provides a useful tool for longitudinal comparison of mood changes in an unobtrusive way, the need to use standardized scores of the MCJ forms limits our ability to quantify the actual magnitude of pleasant mood being experienced by the participants. Furthermore, the mood-congruent judgment is limited in that it is only an indirect measure of individuals’ mood. It would be of interest to examine how exposure to positive self-statements is related to individuals’ actual experience of mood change. Other indicators of mood change (e.g., voice indicators, see Ellgring & Scherer, 1996) may be deployed to show the effect of exposure to positive self-statements.

In the analyses related to need satisfaction and self-esteem, we acknowledge that the use of dichotomization was not ideal given the loss of statistical power. However, since the focus of the present study is on the *changes* in mood, the approach of dichotomizing self-esteem or need satisfaction scores is justifiable as it provides more straightforward interpretation about the effects of these variables on the *changes* across experimental conditions.

Apart from examining the effects of positive self-statements on mood, which is a short-term affective reaction, it would also be important to investigate the effects of these statements on individuals' well-being in the long run. Given that exposure to positive self-statements is potentially harmful to certain individuals under different circumstances, it is of vital importance to examine the long-term effects of utilizing self-help materials in everyday life. Longitudinal studies deploying techniques such as experience-sampling method (Csikszentmihalyi & Larson, 1987) will be ideal for this line of investigation.

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Table 1.

Means and standard deviations of the standardized MCJ scores before and after interventions in each condition (N = 261)

Conditions	<i>n</i>	Pre-test	Post-test	<i>t (df)</i>	<i>d</i>
		MCJ	MCJ		
		<i>M (SD)</i>	<i>M (SD)</i>		
PSS in text	71	.10 (.83)	-.14 (1.05)	2.09 (70)*	.25
PSS on audio-recording	64	-.11 (1.01)	.29 (1.22)	-2.66 (63)**	-.38
Control in text	72	-.04 (1.01)	-.05 (.98)	.10 (71)	.01
Control on audio-recording	54	.02 (.86)	-.10 (.91)	.86 (53)	.14

* $p < .05$; ** $p < .01$. *MCJ* = Mood Congruent Judgment, *PSS* = Positive self-statement condition

Table 2.

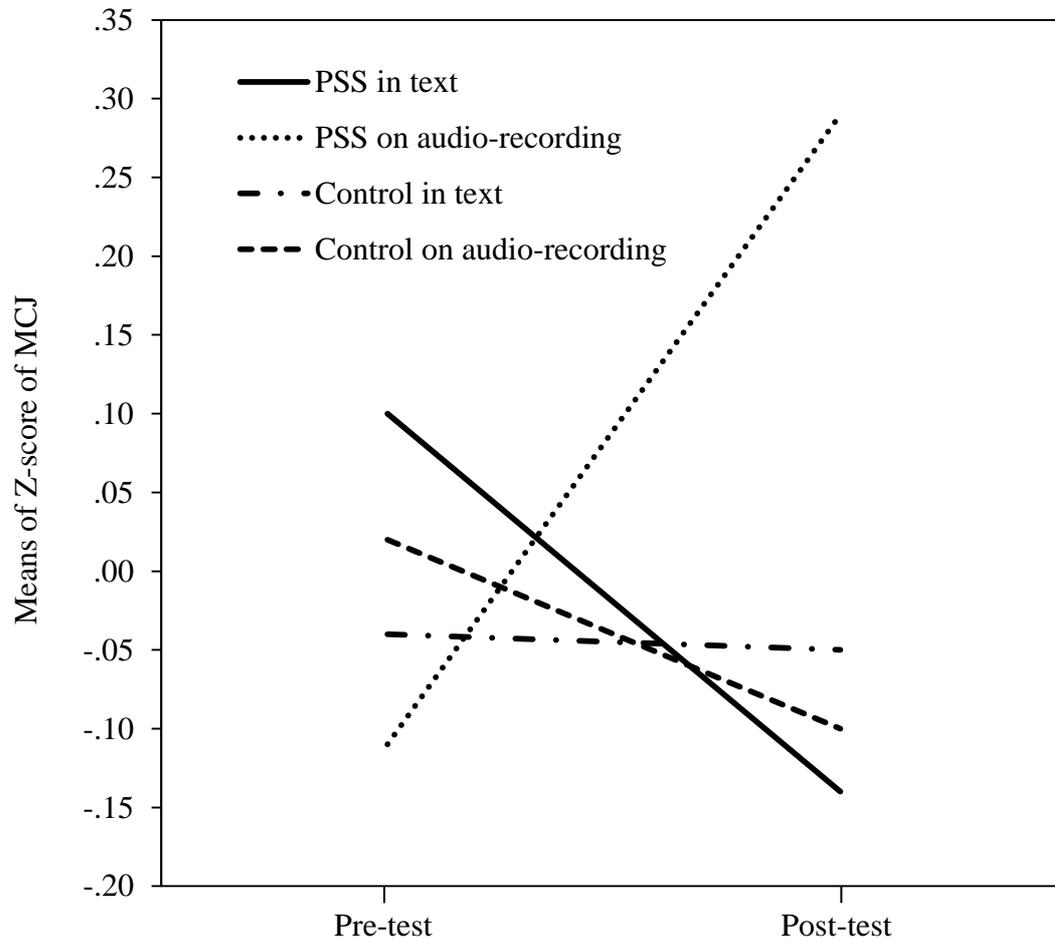
Changes in the MCJ scores as a function of reading positive self-statements and levels of need satisfaction (N = 88)

		Pre-test MCJ	Post-test MCJ		
Self-discrepancy as indicated by NS	<i>n</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t (df)</i>	<i>d</i>
PSS with high NS	26	.33 (.90)	.47 (1.15)	-.78 (25)	-.13
PSS with low NS	17	-.12 (.79)	-.65 (.76)	2.52 (16)*	.72
Control with high NS	25	.60 (.80)	.48 (1.03)	.64 (24)	.07
Control with low NS	20	-.82 (.64)	-.67 (.96)	-.71 (19)	-.02

* $p < .05$. *MCJ* = Mood Congruent Judgment, *PSS* = Positive self-statement condition, *NS* = Need Satisfaction

Figure 1.

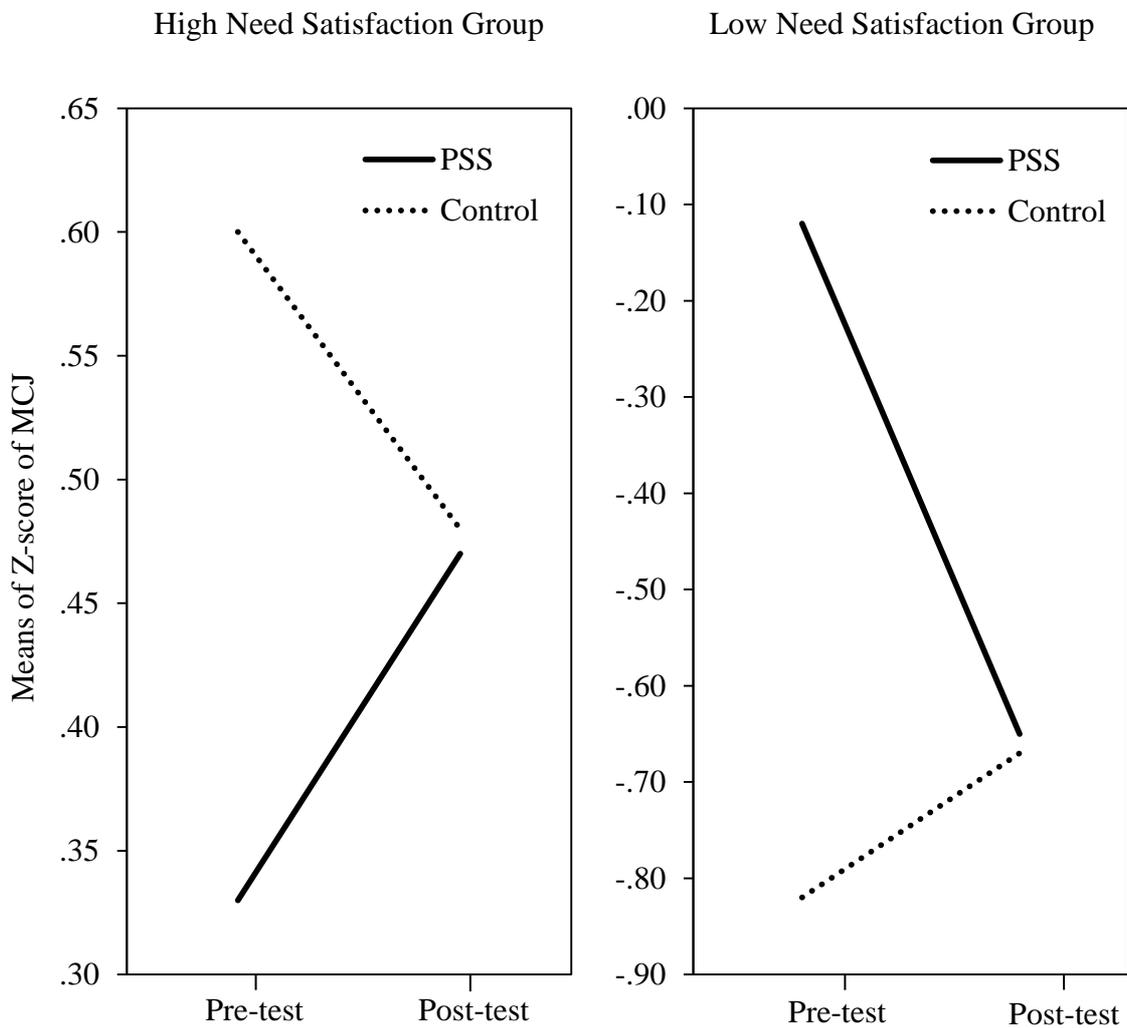
Means of the standardized MCJ scores in the four conditions



MCJ = Mood Congruent Judgment, PSS = Positive self-statement condition

Figure 2.

Means of the standardized MCJ scores among individuals with high or low need satisfaction in the text conditions



MCJ = Mood Congruent Judgment, *PSS* = Positive self-statement condition