

Florida State University Libraries

Electronic Theses, Treatises and Dissertations

The Graduate School

2011

Can Smaller Steps Lead to Greater Progress?: Testing the Effects of Two Types of Positive Self-Statements on Self-Esteem and Mood

Jennifer L. Hames



THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

CAN SMALLER STEPS LEAD TO GREATER PROGRESS?: TESTING THE EFFECTS OF
TWO TYPES OF POSITIVE SELF-STATEMENTS ON SELF-ESTEEM AND MOOD

By

JENNIFER L. HAMES

A Thesis submitted to the
Department of Psychology
in partial fulfillment of the
requirements for the degree of
Master of Science

Degree Awarded:
Spring Semester, 2011

The members of the committee approve the thesis of Jennifer Hames defended on March 4, 2011.

Thomas E. Joiner
Professor Directing Thesis

Natalie Sachs-Ericsson
Committee Member

Ashby Plant
Committee Member

The Graduate School has verified and approved the above-named committee members

ACKNOWLEDGEMENTS

I would like to thank my major professor, Thomas Joiner, for his helpful comments and guidance during the preparation of this manuscript. I would also like to thank my thesis committee members, Natalie Sachs-Ericsson and Ashby Plant, for their helpful comments and guidance. And last, but definitely not least, I would like to thank my family for their constant and unfailing support.

TABLE OF CONTENTS

List of Tables	v
List of Figures	vi
Abstract	vii
1. INTRODUCTION	1
Self-Esteem Maintenance Processes	2
Attitude Change	3
Self-Verification Motives	4
Findings from a Preliminary Study	6
The Present Study	7
2. METHOD	9
Participants	9
Materials	10
Procedure	12
3. RESULTS	15
Data Screening	15
Preliminary Analyses	15
Manipulation Check	16
Hypothesis Testing	17
Analyses Using Change Scores	20
Exploratory Analyses Using State Self-Esteem Subscales	21
4. DISCUSSION	24
Explanation 1: Time	24
Explanation 2: Therapeutic Effect of Writing	26
Strengths, Limitations, and Future Directions	27
Conclusion	28
APPENDIX A	35
APPENDIX B	36
REFERENCES	37
BIOGRAPHICAL SKETCH	39

LIST OF TABLES

Table 1: Means and Standard Deviations for all Measures at Baseline, Post-Failure Task, and Post Positive Self-Statement Manipulation ($N = 195$)	29
Table 2: Means, Standard Deviations, and Intercorrelations among all Variables in the Overall Sample ($N = 195$).....	30
Table 3: Means and Standard Deviations for all Pre- and Post-Failure Manipulation Measures ($N = 196$).....	31

LIST OF FIGURES

Figure 1: Experimental design to test the effects of stable/global and unstable/specific positive self-statements on self-esteem and mood	32
Figure 2: Low and high self-esteem participants' Time 3 (post-positive self-statement manipulation) negative affect, positive affect, state self-esteem, and disguised mood scores as a function of their randomly assigned positive self-statement condition	33
Figure 3: Low and high self-esteem participants' change in negative affect, positive affect, state self-esteem, and disguised mood scores from Time 2 (post-failure task) to Time 3 (post-positive self-statement manipulation) as a function of their randomly assigned positive self-statement condition	34

ABSTRACT

The self-help literature avidly promotes the use of positive self-statements to boost self-esteem and mood; however, recent research provides evidence that positive self-statements may be harmful to people with low self-esteem. Prior research has only tested the effects of one type of positive self-statement (stable/global) on self-esteem and mood, but research on self-esteem maintenance processes, attitude change, and self-verification motives provides reason to believe that people with low self-esteem may benefit more from using unstable/specific positive self-statements. In order to test the effect of each type of positive self-statement on self-esteem and mood, high and low self-esteem participants were randomly assigned to one of three positive self-statement conditions (stable/global, unstable/specific, control) after experiencing a laboratory stressor. Results revealed that among high and low self-esteem participants, there was not a significant difference in mood and self-esteem as a function of their positive self-statement condition. Such results suggest that positive self-statements are not harmful to individuals; however, there may be an opportunity cost associated with using positive self-statements in the place more effective coping techniques.

INTRODUCTION

Over the past few decades, the “do it yourself” mentality has become increasingly popular in Western society. This mentality, combined with the social stigma and high cost of seeking mental health treatment, has contributed to millions of people trying to boost their mood and self-esteem using techniques found within the self-help literature. In fact, Americans spent \$563 million on self-help books in 2000, providing compelling evidence that the “do it yourself” mentality has indeed seeped its way into the sphere of mental health treatment (Paul, 2001). As many people use the techniques found within the self-help literature, it is thus essential to determine the efficacy of such techniques.

One particular technique that has been heartily promoted by self-help advocates is the use of positive self-statements (i.e., affirmations) as a means of boosting low self-esteem and negative mood (e.g., Harris, 1969; McWilliams, 1994). For instance, some popular self-help books have advocated repeating positive self-statements such as “I’m a lovable person” (Johnson, 1991) and “I am a happy, healthy, wealthy person” (McWilliams, 1994) in order to enhance mood, performance, and self-image. Further, many self-help books seek to create generally unrealistic expectations that their techniques will work. For instance, Peale (1952) opens his book by stating that positive thinking is *always* effective, and McWilliams (1994) goes so far as to say, “No matter how ‘impossible’ something may seem, put it into an affirmation and give it a try.”

There is, however, little empirical support for the efficacy of positive self-statements outside of a psychotherapy context. In fact, Wood, Perunovic, and Lee (2009) found that people with low self-esteem experienced a *decrease* in self-esteem and mood after being asked to repeat positive self-statements, providing evidence that positive self-statements may actually be harmful to the people they are intended to help (i.e., people with low self-esteem). Although Wood et al. (2009) took an important step forward in evaluating the efficacy of positive self-statements, their conclusions are somewhat limited because they only tested the impact of one particular type of positive self-statement on people’s self-esteem and mood – stable (i.e., enduring) and global (i.e., likely to affect many outcomes) positive self-statements (e.g., I’m a lovable person). There is reason to believe, though, that unstable (i.e., not enduring) and specific (i.e., not likely to affect many outcomes) positive self-statements (e.g., people seem to like me today) may not have such negative effects on people with low self-esteem. Thus, the goal of the

present study is to compare these two distinct subtypes of positive self-statements – stable/global statements and unstable/specific statements – to determine the impact that each type of statement has on people’s self-esteem and mood.

In order to test the efficacy of each type of positive self-statement, an experiment will be run in which people with either high or low self-esteem will be randomly assigned to use either stable/global positive self statements, unstable/specific positive self-statements, or no self-statements after a laboratory stressor. Predictions about which type of positive self-statement will be most beneficial for people with either high or low self-esteem can be informed by research addressing self-esteem maintenance processes (Josephs, Bosson, & Jacobs, 2003), attitude change (Sherif & Hovland, 1961), and self-verification motives (Swann, Stein-Seroussi, & Giesler, 1992).

Self-Esteem Maintenance Processes

Research on self-esteem maintenance processes suggests that one of the reasons self-esteem may be so resistant to change is that people with low self-esteem may be resistant to self-generated positive feedback (Josephs et al., 2003). In fact, a study by Josephs et al. (2003) provides evidence that people with low self-esteem are less likely to accept positive feedback from themselves than from an outside source, but equally likely to accept negative feedback from the self and an outsider. If one considers positive self-statements to be a form of positive self-feedback, then the research on self-esteem maintenance processes can provide one potential explanation for the results of Wood et al.’s (2009) study. In effect, one of the reasons people with low self-esteem might experience a decrease in self-esteem and mood after using positive self-statements is because they are resistant to their own positive self-generated feedback.

Additionally, Josephs et al. noted that the impact that feedback has on a person’s self-esteem may be determined by that person’s willingness to accept the feedback. Therefore, in order for a positive self-statement to have beneficial effects on a person’s self-esteem and mood, the person must first accept the positive self-statement into his or her self-concept. It is thus essential to determine whether people with low self-esteem are more likely to accept certain types of positive self-statements than other types so that the most effective positive self-statements can be used to help boost their self-esteem and mood. Both social judgment theory (Sherif & Hovland, 1961) and self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992) provide reason to predict that people with low self-esteem will be more likely to accept

unstable/specific positive self-statements than stable/global positive self-statements.

Attitude Change

Research on attitude change stemming from Sherif and Hovland's (1961) social judgment theory suggests that the acceptance or persuasiveness of a message is largely a function of the amount of discrepancy that exists between the content of the message and content of a person's self-attitude. Therefore, the theory predicts that the larger the discrepancy between the content of the message and the content of a person's self-attitude, the less likely that the person will be to accept the message. Sherif and Hovland (1961) further propose that messages can fall into one of three categories on a person's attitudinal continuum: (a) the "latitude of acceptance," consisting of attitudes that a person deems acceptable and plausible; (b) the "latitude of rejection," consisting of attitudes that a person deems objectionable and implausible; or (c) the "latitude of noncommitment," consisting of positions that are neither acceptable nor objectionable. According to the "latitude of acceptance" idea, a person should be more likely to accept messages and deem them to be plausible if they fall within his or her latitude of acceptance than if they fall within his or her latitude of rejection (Eagly & Chaiken, 1993).

In the context of social judgment theory, positive self-statements can be conceptualized as messages that are intended to change one's self-attitude (i.e., self-esteem). Therefore, in order for a positive self-statement to be effective in changing a person's self-attitude, it is crucial that the positive self-statement fall within his or her latitude of acceptance. Further emphasizing how important it is for a positive self-statement to fall within one's latitude of acceptance, research has shown that when messages fall outside of one's latitude of acceptance, they have the potential to backfire and lead an individual to latch onto his or her original attitude more strongly (Zanna, 1993).

Consistent with the findings of Wood et al. (2009), stable/global positive self-statements appear to be capable of making people with low self-esteem feel worse because they tend to fall within their latitude of rejection. In other words, stable/global positive self-statements may be too extreme or unbelievable for people with low self-esteem to accept because the discrepancy between the content of the stable/global positive self-statement and the person's self-attitude is too large. Therefore, if people who believe they are unlovable are asked to repeat the stable/global positive self-statement "I'm a lovable person," there may be two consequences: (a) they might reject this statement and not incorporate it into their self-concept; and (b) a

boomerang effect could occur in which they recall instances that support their original view that they are unlovable, thus leading them to hold their original belief even more firmly than before.

Following a similar line of reasoning, unstable/specific positive self-statements could have the potential to make people with low self-esteem feel better because they are more likely to fall within their latitude of acceptance than stable/global positive self-statements.

Unstable/specific positive self-statements are not as extreme or outlandish as stable/global positive self-statements. Therefore, people with low self-esteem may be more likely to accept an unstable/specific positive self-statement than a stable/global positive self-statement because there is a smaller discrepancy between the content of the unstable/specific positive self-statement and the person's self-attitude than there is between the content of the stable/global positive self-statement and the person's self-attitude. Accordingly, if people who believe they are unlovable are asked to repeat the unstable/specific positive self-statement "People seem to like me today," they may be more likely to accept the statement and thus less likely to experience a boomerang effect than if they were asked to repeat a stable/global positive self-statement. Thus, people with low self-esteem may be more likely to incorporate these types of statements into their self-concepts, leading to increases in self-esteem and mood. For people with positive self-concepts (i.e., high self-esteem), however, both stable/global and unstable/specific positive self-statements are likely to fall within their latitude of acceptance; therefore, this theory would predict that both types of positive self-statements should lead to improvements in self-esteem and mood.

Self-Verification Motives

Self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992) provides an additional framework to explain why positive self-statements may be effective for some people, but backfire for others. According to self-verification theory, people have a deep-seated need to confirm their self-concepts in order to enhance their perception of predictability and control in their lives and to promote social harmony. Furthermore, this theory proposes that there is no difference in self-verification needs between people with positive self-concepts and people with negative self-concepts. Therefore, self-verification theory proposes that people with negative self-views tend to desire self-confirmation, even at the cost of receiving negative feedback from other people. Indeed, numerous studies provide evidence that people with mild levels of depression (i.e., negative self-views) are motivated to seek feedback and interaction partners that confirm their negative self-views (Joiner, 1995; Joiner, Alfano, & Metalsky, 1993; Swann,

Wenzlaff, Krull, & Pelham, 1992; Swann, Wenzlaff, & Tatarodi, 1992). The theory additionally proposes that when people receive feedback that is inconsistent with their self-concept, it will be met with resistance.

Although self-verification theory proposes that people tend to fulfill their self-verification needs through feedback from others, positive self-statements could also fit into this theoretical framework if they are conceptualized as a form of self-feedback that can either confirm or disconfirm one's self-concept. Such self-verification motives can thus help explain why positive self-statements may boost the self-esteem and mood of people with positive self-concepts (i.e., high self-esteem) and lower the self-esteem and mood of people with negative self-concepts (i.e., low self-esteem). For people with positive self-concepts, positive self-statements are not likely to be met with resistance because the statements are generally consistent with their already positive self-concept. Hence, people with positive self-concepts may experience a boost in self-esteem and mood as a result of receiving self-verifying feedback. In contrast, for people with negative self-concepts, positive self-statements will likely be met with resistance because the statements are so drastically different from their generally negative self-concept. Hence, people with negative self-concepts may experience a decrease in self-esteem and mood as a result of being confronted with self-disconfirming feedback.

Similar to the "latitudes of acceptance" idea of social judgment theory (Sherif & Hovland, 1961), there is reason to believe that, especially for people with a negative self-concept, the *discrepancy* between the content of the feedback – or in this case the positive self-statement – and a person's self-concept may contribute to whether or not that person incorporates the positive self-statement into his or her self-concept. In other words, the smaller the discrepancy between the content of the positive self-statement and a person's self-concept, the more likely a person will be to see the positive self-statement as fulfilling to his or her self-verification needs. For a person with an already positive self-concept, regardless of whether a positive self-statement is stable/global or unstable/specific in nature, the discrepancy between the content of the positive self-statement and his or her self-concept is not likely to be large. Therefore, it would follow that people with positive self-concepts may have a relatively easy time reaping the benefits of positive self-statements. For people with negative self-concepts, however, unstable/specific positive self-statements are likely to seem less extreme and hence more believable than stable/global positive self-statements because, by definition,

unstable/specific positive self-statements are less enduring and less likely to affect many outcomes than stable/global positive self-statements. Therefore, people with a negative self-concept may be more likely to view unstable/specific positive self-statements as fulfilling to their self-verification needs – and consequently may be more likely to incorporate them into their self-concept – than stable/global positive self-statements.

Findings from a Preliminary Study

In addition to providing a theoretical basis for the predictions of this experiment, I also collected some preliminary data looking at the relationship between people's self-esteem level and their reported tendency of using both stable/global and unstable/specific positive self-statements. In this study, participants ($N = 250$) completed a battery of measures online, including measures of self-esteem and surveys of their tendency to use each type of positive self-statement. The positive self-statement surveys were created for the purpose of the study and maintain a similar format to the positive self-statement survey that was used by Wood et al. (2009).

There were four notable findings. First, across all participants, the correlation between the reported frequency of using stable/global positive self-statements and unstable/specific positive self-statements was moderate ($r = .45$), thus providing evidence that the two positive self-statement measures are not simply measuring the same construct. Second, participants with high self-esteem reported using both types of positive self-statements more frequently than participants with low self-esteem. Third, while there was no difference in the reported frequency of using stable/global and unstable/specific positive self-statements among participants with high self-esteem, participants with low self-esteem reported using unstable/specific positive self-statements significantly more frequently than stable/global positive self-statements. Lastly, with regard to how helpful participants tend to find each of the types of statements, participants with high self-esteem rated stable/global positive self-statements as being significantly more helpful than unstable/specific positive self-statements, but participants with low self-esteem rated unstable/specific positive self-statements as being significantly more helpful than stable/global positive self-statements.

It is important to note that this preliminary study looks at people's natural tendencies to use both stable/global and unstable/specific positive self-statements. This is in contrast to the self-help literature, which tells people to use particular positive self-statements. With regard to

natural tendencies, the results of this preliminary study provide evidence that people with low self-esteem tend to use unstable/specific positive self-statements more frequently and find them more helpful than stable/global positive self-statements. On the other hand, people with high self-esteem do not report a difference in their frequency of using each type of statement, but they tend to find stable/global positive self-statements more helpful than unstable/specific positive self-statements.

Taking into account these findings, telling people with low self-esteem to repeat stable/global statements such as “I’m a lovable person” is essentially asking them to engage in a mental exercise that they do not find as helpful as other strategies and that goes against their natural tendencies. When a person with low self-esteem uses stable/global positive self-statements, the statements may be met with resistance and potentially even backfire for these very reasons. As the results of the preliminary study also provide evidence that people with low self-esteem tend to use both types of positive self-statements less frequently than people with high self-esteem, it may therefore be a more fruitful endeavor to ask people with low self-esteem to use unstable/specific positive self-statements (i.e., the type of statement that they already tend to use and find helpful) more frequently than they already tend to use them. People with low self-esteem may in turn be more likely to accept the content of the positive self-statement into their self-concept, making it more likely that they will experience a boost in self-esteem and mood.

The Present Study

As research provides compelling evidence that people with low self-esteem may be more likely to accept unstable/specific positive self-statements than stable/global positive self-statements, the present study sought to test the effects of both stable/global and unstable/specific positive self-statements on self-esteem and mood using an experimental design (see Figure 1 for an overview of the design). In this experiment, people who are either high or low in self-esteem were randomly assigned to either use stable/global positive self-statements, unstable/specific positive self-statements, or no self-statements following a laboratory stressor (i.e., a failure experience). The stressor was introduced because prior research has found that 74% of people report using positive self-statements to cope with negative life events (Wood et al., 2009). Therefore, having participants use positive self-statements after a laboratory stressor realistically simulates the times during which people are most likely to use such statements to boost their self-esteem and mood. In light of the pertinent theories and available evidence, the present study

made the following predictions: (1) people with low self-esteem will experience an increase in self-esteem and mood following the use of unstable/specific positive self-statements and a decrease in self-esteem and mood following the use of stable/global positive self-statements; (2) people with high self-esteem will experience an increase in self-esteem and mood regardless of which positive self-statement condition they are in.

METHOD

Participants

Participants were two hundred ten (70 males, 140 females; mean age = 18.95) undergraduate college students from a large public university in the southeast. Participants were 82.5% Caucasian, 9.5% African American, 2.8% Asian, .5% Pacific Islander/Native Hawaiian, 3.8% Other, and .9% chose not to respond. With regard to ethnicity, 19.0% of the sample was Hispanic or Latino. Overall, 70 (33.2%) participants were randomly assigned to the stable/global positive self-statement condition, 71 (33.6%) participants were randomly assigned to the unstable/specific positive self-statement condition, and 69 (32.7%) participants were randomly assigned to the control condition. Among the participants who were randomly assigned to the stable/global positive self-statement condition, 35 participants endorsed having low self-esteem at baseline, and 35 participants endorsed having high self-esteem at baseline. Among the participants who were randomly assigned to the unstable/specific positive self-statement condition, 36 participants endorsed having low self-esteem at baseline, and 35 participants endorsed having high self-esteem at baseline. Finally, among the participants who were randomly assigned to the control condition, 36 participants endorsed having low self-esteem, and 33 participants endorsed having high self-esteem at baseline.

Power analyses based on the proposed study design were conducted using G-Power (Faul, Erdfelder, Lang, & Buchner, 2007). A priori power analyses indicated that with alpha set at .05, in order to have adequate power (.80) to detect an interaction between self-esteem and positive self-statement condition, a minimum total sample size of 158 was needed. Participants were recruited based on their scores on a self-esteem screening measure. Prior research has found that most undergraduates report having high self-esteem (Taylor & Brown, 1988), and even those people who have low self-esteem in a relative sense (i.e., score in the bottom quartile on a self-esteem measure) may not necessarily have low self-esteem in an absolute sense (Baumeister, Tice, & Hutton, 1989). In order to account for these findings, participants with high self-esteem were recruited from those individuals who scored in the highest 50% on the self-esteem screening scale and participants with low self-esteem were recruited from those individuals who scored in the lowest 15% on the self-esteem screening measure. Once participants with high and low self-esteem were identified, they received an e-mail from the experimenter inviting them to participate in the present study. Efforts were made to recruit an

equal number of males and females; however, as females tend to report lower self-esteem than males, a disproportionate number of females were represented among the low self-esteem participants (Kling, Hyde, Showers, & Buswell, 1999). Participants were given one research experience credit for their participation.

Materials

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988).

The PANAS is widely used questionnaire that assesses positive and negative affect. Participants rate the degree to which they are experiencing a total of 20 positive and negative emotions on a scale ranging from 1 (very slightly or not at all) to 5 (extremely) at the present moment.

Participants' ratings for each of the positive items are summed to form a positive affect score, and ratings for each of the negative items are summed for form a negative affect score. Scores on each scale can range from 10 to 50, with higher scores indicating either more positive or negative affect. Both the positive and negative affect scales have high internal consistency, with the alpha coefficients ranging from .86 to .90 for positive affect and from .84 to .87 for negative affect (Watson et al., 1988). Additionally, when short-term instructions are used, the test-retest reliabilities are relatively low (.54 for positive affect and .45 for negative affect), providing evidence that the scales are sensitive to fluctuations in mood (Watson et al., 1988). The PANAS has also been shown to have good concurrent and discriminant validity (Watson et al., 1988).

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). The Rosenberg Self-Esteem Scale is a 10-item self-report measure of global trait self-esteem. It consists of 10 statements related to overall feelings of self-worth and self-acceptance. The items are answered on a 4-point scale ranging from 1 (Strongly Agree) to 4 (Strongly Disagree). All of the positively valenced items are reverse scored, and then participants' ratings for each item are summed to form the total score. Scores range from 10 to 40, with higher scores indicating higher self-esteem. Extensive and acceptable reliability (internal consistency and test-retest) and validity (convergent and discriminant) information exists for the Rosenberg Self-Esteem Scale (see Blascovich & Tomaka, 1991). Three items from the Rosenberg Self-Esteem Scale were used for self-esteem screening purposes prior to the experiment, and scores from these three items have been found to be highly correlated with individuals' full 10-item scores ($r = .91$). The internal consistency for the three items used in screening was acceptable (Coefficient alpha = .71).

State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991). The State Self-Esteem Scale is a self-report measure of short-lived (i.e., state) changes in self-esteem that has been shown to be a valid measure of both naturally and laboratory induced failure (Heatherton & Polivy, 1991). The SSES consists of 20 statements related to current feelings of self-worth and self-acceptance, and individuals are asked to rate how true each statement is for them at the current moment on a 5-point scale, ranging from 1 (not at all) to 5 (extremely). All of the positively valenced items are reverse scored, and then participants' ratings for each item are summed to form the total score. Scores range from 10 to 100, with higher scores indicating higher levels of state self-esteem. There are three factor-analytically derived subscales of the SSES: performance, social, and appearance. The SSES has been shown to have high internal consistency (coefficient alpha = .92), and it has also has demonstrated good concurrent and discriminant validity (Heatherton & Polivy, 1991).

Association and Reasoning Scale (ARS; Mayer & Hanson, 1995). The Association and Reasoning Scale is a brief 12-item scale that assesses the pleasantness and unpleasantness of judgments. Research on the mood-congruent judgment effect (Fiske & Taylor, 1991; Forgas, 1992; Singer & Salovey, 1988) provides evidence that how pleasant or unpleasant an individual rates a judgment is reflective of his or her emotional state. The ARS can thus function as a disguised (i.e., less transparent) measure of mood and help reduce reactivity effects. There are 2 interchangeable forms of the ARS (Form A and Form B), and each has 12 items that include probability estimations (e.g., "What is the probability that a 30-year-old will be involved in a happy, loving romance?"), category examples (e.g., "The most typical type of worker is: A. Conscientious; B. Lazy; C. Honest"), and concept-salience ratings (e.g., Rate the thoughts, images, and associations that come to mind in response to a target word – "generous"). Scores on the ARS range from 16 to 81, with higher scores indicating happier moods. The inter-item correlations on the ARS are low, as would be expected given that each item asks about a different intellectual problem. The split-half reliabilities (used because of item heterogeneity) of the ARS were near optimal (Form A, $r = .63$; Form B, $r = .61$).

Writing feedback form. As part of the writing failure task (i.e., laboratory stressor), all participants received the same bogus negative feedback on their writing ability. This false negative feedback was delivered in the form of a writing feedback form that consisted of both numerical ratings and a place for written comments. Prior research has demonstrated that

providing false negative feedback on a task is an effective self-esteem manipulation technique (Heatherton & Polivy, 1991). The numerical ratings portion of the feedback form consisted of 10 items that related to writing ability (e.g., Organization, Clarity, Grammar) that are rated on a scale of 1 (very poor) to 10 (Excellent). All participants received the same negative ratings of a 3 or below on each of the 10 items that relate to writing ability, placing their writing quality in the poor to very poor range. All participants also received the same handwritten comments on the written comments portion of the feedback form. The written comments read, “The quality of this essay is below average. The ideas were not organized at all, and the writing was extremely unclear. The large number of grammatical mistakes made the essay flow very poorly. This is overall substandard writing. This essay would likely receive a C –at best—in a freshman course.”

Procedure

At the beginning of an academic semester, all students who were registered for the Introduction to Psychology course at a large public university in the Southeast were screened (i.e. as a part of mass screening) for high and low self-esteem based on their responses to the 3 items from the Rosenberg Self-Esteem Scale (Rosenberg, 1965) that have the highest factor loadings onto the self-esteem construct. Participants were invited to participate in the current experiment if their scores fell within the top 50% (i.e., high self-esteem) or bottom 15% (i.e. low self-esteem).

Upon arrival at the laboratory, participants were presented with an informed consent form and told that the goal of the present study was to assess how students express and process information through writing. They were also told that as a part of the study, they would be asked to write a brief essay and that it would be evaluated by another participant who had already arrived. In reality, only one participant completed the experiment at a time, so in order to make it appear as though another participant had already arrived, one door in the laboratory remained closed with an “Experiment in Progress” sign posted on it. It is important to note that experimenters were blind to participants’ initial levels of self-esteem. Once consent was obtained, participants were taken to an individual room with a computer where they completed baseline measures of state self-esteem (SSES) and mood (ARS, PANAS). After they completed the baseline measures, participants were asked to open the door a crack to notify the experimenter that they were finished.

Next, in order to simulate a negative life event in the laboratory, all participants engaged in a laboratory failure task that involved the administration of false negative feedback on their writing ability. Specifically, the experimenter gave each participant a prompt that asked him or her to write a brief essay about an engaging topic for college students (i.e., state funding of universities and the impact on tuition). By having participants write about a topic that directly affects their lives, it was thus more likely that their self-esteem and mood would be affected by a negative evaluation of their ideas and writing. Participants had 10 minutes to write the essay, and they were reminded that their essay would be read and critiqued by the participant who was in the other room. After 10 minutes, the experimenter notified the participant that time was up, and that his or her essay must be collected so that it can be exchanged with the other participant's essay. Participants were then given 5 minutes to read and critique (using a uniform essay feedback form) an essay that they were told was written by the "participant" in the other room. In reality, though, all participants read and critiqued the same bogus essay that was written by the experimenter. At the end of the critique period, the participant's feedback form was collected, and shortly after, the experimenter brought the participant a bogus writing feedback form that provided the participant with negative feedback on his or her writing ability. It is important to note that all participants received the same negative feedback evaluation, and they were all under the impression that the negative feedback was provided by the "participant" in the other room. The participant was then left alone for 3 minutes to think about the negative evaluation. In order to determine whether the writing failure manipulation actually simulated a negative life event and thus had its intended effect, participants completed measures of state self-esteem and mood. In an effort to reduce the transparency of the study's design, a disguised mood measure (ARS) was given first, followed by measures of state self-esteem (SSES) and mood (PANAS), which were embedded within items from other unrelated measures (e.g., Big 5 personality measures of openness and conscientiousness).

Up until this point in the experiment, all participants completed the same tasks and measures. At this time, however, participants from each self-esteem group were randomly assigned to one of three positive self-statement conditions: (a) stable/global positive self-statement; (b) unstable/specific positive self-statement; or (c) no self-statement (control). The only restriction to random assignment was that equal numbers of participants with high and low self-esteem participated in each of the three conditions. In each condition, participants were

given 10 minutes to write another brief essay, and the prompt that they wrote about was reflective of their randomly assigned positive self-statement condition. Specifically, participants in the first condition were asked to write about how the stable/global positive self-statement “I’m a lovable person” applied to them, participants in the second condition were asked to write about how the unstable/specific positive self-statement “People seem to like me today” applied to them, and participants in the third condition (i.e. control) were asked to write about their favorite activity (i.e. a positively valenced prompt that was not a “self-statement”). The purpose of manipulating the type of positive self-statement participants use after they are exposed to a laboratory stressor was to be able to determine the impact that each type of positive self-statement has on people’s self-esteem and mood in a situation that people tend to use such statements (i.e., to cope with negative life events). In order to determine the effect of using a designated type of positive self-statement on participants’ state self-esteem and mood, participants were again be asked to complete the same measures of state self-esteem and disguised mood that were given after the writing failure task.

Immediately upon completion of the experiment, the participants were asked a few brief questions (e.g., What do you think the purpose of this experiment was?; What did you think about the evaluation of your writing that you received?) in order to determine if the deception was effective. The experimenter then debriefed participants about the deceptive elements in the study (i.e., the bogus negative feedback on their writing) and assured them that the feedback they received was in no way reflective of their true writing ability.

RESULTS

Data Screening

Participants' data were first checked for missing data, outliers, and normality. Across all participants, the amount of missing data was minimal (0.4%). To deal with the missing data, participants' scores on each measure were not computed unless they completed at least 90% of the items on that measure. Participants who did not complete at least 90% of the items on a particular measure were not included in any analyses that used that measure. To determine whether data were missing at random or whether there was some pattern to why the data points were missing, the primary analyses were run with and without participants who had missing data, and the results remained unchanged. This finding provides evidence that the data were missing at random and that the missing data did not have a significant impact on the results. Next, univariate and multivariate outliers were sought within each self-esteem group (low, high) separately. Univariate and multivariate outliers were defined as data points with very large standardized scores (i.e. z scores greater than 3.3) that are disconnected from the distribution (Tabachnick & Fidell, 2007). All identified outliers were determined to be part of the desired population of interest, but were considered to be extreme cases. Thus, each outlier's score was adjusted so that it was a unit larger or smaller than the last case that fit within the normal distribution. Finally, all data were checked for normality (i.e. skewness and kurtosis), with no significant violations noted.

Preliminary Analyses

In order to minimize the impact of demand characteristics on the results, participants ($N = 14$) who guessed the hypothesis of the study were not included in analyses. Participants who guessed the hypothesis were not found to be significantly different on any demographic or baseline measure (e.g., negative affect, positive affect, self-esteem) compared to participants who did not guess the hypothesis. Next, analyses were conducted to confirm that random assignment to positive self-statement condition was successful (i.e., participants' scores on each of the baseline measures did not differ as a function of their randomly assigned condition). A series of one-way analysis of variance (ANOVA) tests were conducted with condition (stable/global positive self-statement, unstable/specific positive self-statement, control) as the independent variable and baseline negative affect, positive affect, state self-esteem, and disguised mood as the dependent variables. Results provided evidence that there were no significant differences on any

of the baseline measures as a function of condition (all p -values $> .15$). Additionally, chi-square tests revealed that there were no significant differences between the three conditions on any of the demographic variables (sex, race, ethnicity, age; all p -values $> .21$). Thus, random assignment to positive self-statement condition was determined to be successful. See Table 1 for descriptive statistics of all variables in the overall sample and within each condition. See Table 2 for means, standard deviations, and intercorrelations among all variables.

Manipulation Check

Overall Sample. First, in order to determine whether the writing failure task had an impact on participants' state mood and self-esteem, participants' scores on the PANAS and SSES pre- and post-failure task were compared. As expected, across all participants, repeated measures analysis of variance (ANOVA) revealed that participants experienced a significant increase in negative affect on the PANAS; Wilks' Lambda = .91, $F(1, 193) = 19.85$, $p < .001$, partial eta squared = .09, a significant decrease in positive affect on the PANAS; Wilks' Lambda = .68, $F(1, 193) = 92.36$, $p < .001$, partial eta squared = .32, and a significant decrease in state self-esteem on the SSES; Wilks' Lambda = .96, $F(1, 195) = 7.63$, $p = .006$, partial eta squared = .32 from baseline to post-failure task. Additionally, in order to provide evidence that demand characteristics were not driving the results of the manipulation check, participants' pre- and post-failure scores on the disguised mood measure (i.e., ARS) were compared using repeated measures ANOVA. Consistent with the findings from the more transparent state mood and self-esteem measures, participants experienced a significant decrease in mood from baseline to post-failure task; Wilks' Lambda = .98, $F(1, 194) = 4.41$, $p = .037$, partial eta squared = .02, thus providing additional evidence that the failure manipulation had its intended effect on participants' state self-esteem and mood. See Table 3 for means and standard deviations of participants' scores on the pre- and post-failure task measures.

Low and High Self-Esteem Groups. Next, repeated measures ANOVAs were conducted to determine whether the failure manipulation had a differential effect on the state mood and self-esteem of participants with low and high self-esteem. From baseline to post-failure task, participants with low self-esteem experienced a significant increase in negative affect on the PANAS; Wilks' Lambda = .84, $F(1, 99) = 18.86$, $p < .001$, partial eta squared = .16; a significant decrease in positive affect on the PANAS; Wilks' Lambda = .62, $F(1, 99) = 60.69$, $p < .001$, partial eta squared = .38; a significant decrease in state self-esteem on the SSES; Wilks' Lambda

= .92, $F(1, 99) = 8.18$, $p = .005$, partial eta squared = .08; and a significant decrease in mood on the disguised mood measure (i.e., ARS); Wilks' Lambda = .96, $F(1, 98) = 4.65$, $p = .034$, partial eta squared = .05. Therefore, consistent with the results from the overall sample, the failure manipulation appeared to have a significant impact on the negative affect, positive affect, and self-esteem of participants with low self-esteem.

On the other hand, from baseline to post-failure task, participants with high self-esteem did not experience a significant difference in negative affect on the PANAS; Wilks' Lambda = .97, $F(1, 93) = 2.60$, $p = .110$, partial eta squared = .03. Additionally, from baseline to post-failure task, participants with high self-esteem did not experience a significant difference in state self-esteem on the SSES; Wilks' Lambda = .99, $F(1, 95) = .47$, $p = .496$, partial eta squared = .01, nor did they experience a significant difference in mood on the disguised mood measure (i.e., ARS); Wilks' Lambda = .99, $F(1, 95) = .82$, $p = .369$, partial eta squared = .01. However, participants with high self-esteem did experience a significant decrease in positive affect on the PANAS; Wilks' Lambda = .74, $F(1, 93) = 33.31$, $p < .001$, partial eta squared = .26. Therefore, inconsistent with the results from the overall sample, the failure manipulation only appeared to have a significant impact on the positive affect of participants with high self-esteem. Overall, the failure task had a greater impact on the state mood and self-esteem of participants with low self-esteem compared to participants with high self-esteem. See Table 3 for means and standard deviations of participants' scores on the pre- and post-failure task measures as a function of their self-esteem level.

Hypothesis Testing

Two main hypotheses were tested. The first hypothesis was that participants with low self-esteem would experience an increase in state self-esteem and mood if they were in the unstable/specific positive self-statement condition and a decrease in state self-esteem and mood if they were in the stable/global positive self-statement condition relative to control participants with low self-esteem. The second hypothesis was that participants with high self-esteem would experience an increase in state self-esteem and mood if they were in either of the two positive self-statement conditions relative to control participants with high self-esteem. In the analyses to follow, high and low self-esteem was operationalized as participants' scores on the RSES at screening, changes in state self-esteem was operationalized as changes in participants' scores on the SSES from the assessment immediately before to the assessment immediately after the

positive self-statement manipulation, and changes in mood were operationalized as changes in participants' scores on the disguised mood measure (ARS) from the assessment immediately before to the assessment immediately after the positive self-statement manipulation. Changes in mood were assessed by looking at changes in participants' positive and negative affect scores on the PANAS from the assessment immediately before and the assessment immediately after the positive self-statement manipulation. Additionally, participants were excluded from the analyses if their responses to the post-experimental questions indicated that the deception was ineffective. Participants in the stable/global, unstable/specific, and control conditions did not differ significantly on the baseline variables (see Table 1).

To examine the effects of self-esteem and positive self-statement condition on participants' state mood and self-esteem upon completion of the positive self-statement manipulation, a multivariate analysis of covariance (MANCOVA) was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and negative affect, positive affect, state self-esteem, and disguised mood scores at the assessment after the positive self-statement manipulation as the dependent variables. Negative affect, positive affect, state self-esteem, and disguised mood scores upon completion of the writing failure task were used as covariates. Preliminary assumption testing was conducted to test for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, and no serious violations were noted, with one exception. Testing revealed that there was a violation of the assumption of homogeneity of variance-covariance matrices; *Box's M* = 77.71, $p < .001$. When in violation of this assumption, Tabachnick and Fidell (2007) recommend reporting the Pillai's trace statistic, as it is more robust to assumption violations than the most commonly reported multivariate tests statistic, Wilks' Lambda. Contrary to hypotheses, results revealed that there was not a significant Self-Esteem x Condition interaction; Pillai's Trace = .07, $F(8, 354) = 1.56$, $p = .14$, partial eta squared = .03, nor were there significant main effects of self-esteem group; Pillai's Trace = .02, $F(4, 176) = .80$, $p = .53$, partial eta squared = .02, or condition; Pillai's Trace = .02, $F(8, 354) = .42$, $p = .91$, partial eta squared = .01.

Despite the fact that there were no significant results on the multivariate tests of significance, the proposed planned comparisons were still conducted to determine whether participants with low or high self-esteem experienced differential changes in mood and self-

esteem as a function of their randomly assigned positive self-statement condition. Six planned comparisons were conducted using a Bonferroni adjusted alpha level of .008. Among participants with low self-esteem, planned comparisons revealed that there were no significant differences on the dependent measures between participants in the stable/global positive self-statement versus the unstable/specific positive self-statement condition; Pillai's Trace = .02, $F(4, 176) = .96, p = .43$; participants in the stable/global positive self-statement versus control condition; Pillai's Trace = .02, $F(4, 176) = 1.11, p = .36$; or between participants in the unstable/specific positive self-statement versus control condition; Pillai's Trace = .03, $F(4, 176) = 1.26, p = .29$. Similarly, among participants with high self-esteem, planned comparisons revealed that there were no significant differences on the dependent measures between participants in the stable/global positive self-statement versus the unstable/specific positive self-statement condition; Pillai's Trace = .03, $F(4, 176) = 1.54, p = .19$; participants in the stable/global positive self-statement versus control condition; Pillai's Trace = .02, $F(4, 176) = .95, p = .44$; or between participants in the unstable/specific positive self-statement versus control condition; Pillai's Trace = .01, $F(4, 176) = .33, p = .86$. See Figure 2 for a graphical depiction of the results of the planned comparisons.

It is important to note that there were predominately low correlations among many of the dependent variables (see Table 2). Given that multivariate tests work best when the dependent variables are moderately correlated, separate univariate analysis of covariance (ANCOVA) tests were conducted on each of the four dependent variables using a Bonferroni adjusted alpha level of .013. First, an ANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and negative affect upon completion of the positive self-statement manipulation as the dependent variable. Negative affect upon completion of the writing failure task was used as a covariate. Results revealed that there was not a significant Self-Esteem x Condition interaction; $F(2, 185) = 2.25, p = .11, \text{partial eta squared} = .02$. Second, an ANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and positive affect upon completion of the positive self-statement manipulation as the dependent variable. Positive affect upon completion of the writing failure task was used as a covariate. Results revealed that there was not a significant Self-Esteem x Condition interaction; $F(2, 186) = .78, p = .46, \text{partial eta squared}$

= .01. Third, an ANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and state self-esteem upon completion of the positive self-statement manipulation as the dependent variable. State self-esteem upon completion of the writing failure task was used as a covariate. Results revealed that there was not a significant Self-Esteem x Condition interaction; $F(2, 187) = 1.97, p = .14$, partial eta squared = .02. Finally, an ANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and disguised mood upon completion of the positive self-statement manipulation as the dependent variable. Disguised mood upon completion of the writing failure task was used as a covariate. Results revealed that there was not a significant Self-Esteem x Condition interaction; $F(2, 187) = 1.85, p = .16$, partial eta squared = .02.

Analyses Using Change Scores

Next, the primary analyses were conducted using change scores as the dependent variables. Change scores were computed to reflect the difference in participants' state mood and self-esteem scores from pre- to post-positive self-statement manipulation. By using change scores, it was thereby possible to determine whether the change in state mood and self-esteem scores differed between self-esteem groups or among the positive self-statement conditions. To test this, a multivariate analysis of variance (MANOVA) was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and change in negative affect, change in positive affect, change in state self-esteem, and change in disguised mood scores as the dependent variables. Preliminary assumption testing revealed that there were no significant violations to the assumptions of MANOVA. Results revealed that there was a significant Self-Esteem x Condition interaction; Wilks' Lambda = .92, $F(8, 360) = 1.96, p = .05$, partial eta squared = .04, indicating that the changes in participant's state mood and self-esteem differed as a function of their self-esteem group and positive self-statement condition.

Planned comparisons were conducted to test the effect of condition within each level of self-esteem. Among participants with low self-esteem, results revealed that there was a significant difference in the amount of change in negative affect experienced between participants in the stable/global positive self-statement and control conditions; $F(1, 183) = 4.37$,

$p = .04$, Partial Eta Squared = $.02$, and the direction of the effect was such that the decrease in negative affect was significantly larger for participants in the control condition compared to participants in the stable/global positive self-statement condition. However, there was not a significant difference in the amount of change in state mood or self-esteem experienced between participants with low self-esteem in the stable/global versus unstable specific positive self-statement conditions (all p -values $> .21$), or between participants with low self-esteem in the unstable/specific positive self-statement versus control conditions (all p -values $> .08$).

Among participants with high self-esteem, there was a significant difference in the amount of change experienced on the disguised mood measure between participants in the stable/global positive self-statement and control conditions; $F(1, 183) = 4.94$, $p = .03$, partial eta squared = $.03$, and the effect was such that participants in the stable/global positive self-statement condition experienced an increase in mood, whereas the participants in the control condition experienced a decrease in mood. However, there was not a significant difference in the amount of change in state mood or self-esteem experienced between participants with high self-esteem in the stable/global and unstable specific positive self-statement conditions (all p -values $> .08$), or between participants with high self-esteem in the unstable/specific positive self-statement and control conditions (all p -values $> .25$). See Figure 3 for a graphical depiction of the results of the planned comparisons.

Exploratory Analyses Using State Self-Esteem Subscales

It is important to note that the primary analyses were conducted using participants' overall score on the State Self-Esteem Scale. Given that there are three subscales to the State Self-Esteem Scale (performance, social, and appearance self-esteem), the primary analyses were also conducted with each of the self-esteem subscales to determine whether the positive self-statement manipulation impacted a particular type of participants' self-esteem.

Performance Self-Esteem. The performance self-esteem subscale measures the extent to which participants feel their performance on a task is worthy; thus, Heatherton and Polivy (1991) suggest that this subscale would be the most sensitive to manipulations in which bogus performance feedback is given. To test whether this was true in the present study, a MANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and negative affect, positive affect, state performance self-esteem, and disguised mood scores at the assessment after

the positive self-statement manipulation as the dependent variables. Negative affect, positive affect, state performance self-esteem, and disguised mood scores upon completion of the writing failure task were used as covariates. Results revealed that there was not a significant Self-Esteem x Condition interaction; Pillai's Trace = .06, $F(8, 334) = 1.23$, $p = .28$, partial eta squared = .03, nor were there significant main effects of self-esteem group; Pillai's Trace = .01, $F(4, 166) = .45$, $p = .76$, partial eta squared = .01, or condition; Pillai's Trace = .03, $F(8, 334) = .52$, $p = .84$, partial eta squared = .01.

Social Self-Esteem. The social self-esteem subscale measures the extent to which participants feel embarrassed or self-conscious about their social image; thus, Heatherton and Polivy (1991) suggest that this subscale would be the most sensitive to manipulations in which self-presentational concerns are threatened. To test whether this was true in the present study, a MANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and negative affect, positive affect, state social self-esteem, and disguised mood scores at the assessment after the positive self-statement manipulation as the dependent variables. Negative affect, positive affect, state social self-esteem, and disguised mood scores upon completion of the writing failure task were used as covariates. Results revealed that there was not a significant Self-Esteem x Condition interaction; Pillai's Trace = .06, $F(8, 344) = 1.33$, $p = .23$, partial eta squared = .03, nor were there significant main effects of self-esteem group; Pillai's Trace = .04, $F(4, 171) = 1.92$, $p = .11$, partial eta squared = .04, or condition; Pillai's Trace = .02, $F(8, 344) = .35$, $p = .95$, partial eta squared = .01.

Appearance Self-Esteem. The appearance self-esteem subscale measures participants' self-esteem regarding their physical appearance; thus, Heatherton and Polivy (1991) proposed that this subscale would be most sensitive to laboratory manipulations that make physical appearance relevant. To test whether this was true in the present study, a MANCOVA was conducted with self-esteem group (low versus high) and positive self-statement condition (stable/global, unstable/specific, control) as the independent variables, and negative affect, positive affect, state appearance self-esteem, and disguised mood scores at the assessment after the positive self-statement manipulation as the dependent variables. Negative affect, positive affect, state appearance self-esteem, and disguised mood scores upon completion of the writing failure task were used as covariates. Results revealed that there was a significant Self-Esteem x

Condition interaction; Pillai's Trace = .09, $F(8, 348) = 2.06$, $p = .04$, partial eta squared = .05. Planned comparisons were conducted to test the effect of condition within each level of self-esteem. Six follow-up comparisons were conducted using a Bonferroni adjusted p -value of .008. Among participants with low self-esteem, follow-up comparisons revealed that there were no significant differences on the dependent measures among participants in each of the three conditions (all p -values > .02). Additionally, among participants with high self-esteem, follow-up comparisons revealed that there were no significant differences on the dependent measures among participants in each of the three conditions (all p -values > .02).

DISCUSSION

The goal of the present experiment was to test the effect of two types of positive self-statements on the state mood and self-esteem of participants with either low or high global self-esteem after experiencing a laboratory stressor. There were two primary hypotheses, which were based on findings from social judgment theory (Sherif & Hovland, 1961) and self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992). First, it was predicted that participants with low self-esteem would experience an increase in state self-esteem and mood if they were in the unstable/specific positive self-statement condition, and a decrease in state self-esteem and mood if they were in the stable/global positive self-statement condition relative to those in the control condition. Second, it was predicted that participants with high self-esteem would experience an increase in state self-esteem and mood if they were in either of the two positive self-statement conditions relative to the control condition. The results, however, did not support the primary hypotheses, as participants with low and high self-esteem did not experience significant changes in mood and self-esteem as a function of their randomly assigned positive self-statement condition. While there were no significant differences found between conditions within the low and high self-esteem groups, an examination of participants' mean mood and self-esteem scores revealed that participants with low and high self-esteem experienced slight decreases in negative affect, and slight increases in positive affect and state self-esteem following the positive self-statement manipulation. These results are thus inconsistent with the results of a study by Wood and colleagues (2009), which found that participants with low self-esteem experienced a decrease in self-esteem and mood after using stable/global positive self-statements while participants with high self-esteem experienced an increase in self-esteem and mood after using stable/global positive self-statements compared to a control group.

There are several potential explanations for why the primary hypotheses were not supported in the present study. First, the implementation of a failure task prior to the positive self-statement manipulation may have clouded the changes in state mood and self-esteem that occurred. Second, writing about a positive self statement (as opposed to simply repeating the positive self-statement in one's mind) may have had a therapeutic effect across all participants.

Explanation 1: Time between Failure Task and Positive Self-Statement Manipulation

Prior to being randomly assigned to engage in one of three positive self-statement conditions, all participants engaged in a writing failure task that was intended to produce a

decrease in state self-esteem and mood across participants. Analyses revealed that while the writing failure manipulation had its intended effect of leading to a significant increase in negative affect and a significant decrease in positive affect and state self-esteem among participants with low self-esteem, the writing failure manipulation only led to a significant decrease in positive affect in participants with high self-esteem. Therefore, the writing failure manipulation had a differential impact on the state self-esteem and mood of individuals depending on their global self-esteem scores, and the impact was greater for participants with low self-esteem.

The failure manipulation may not have had as large of an impact on participants with high self-esteem because they may have been less likely to accept the negative feedback they received on their writing compared to participants with low self-esteem. In fact, this finding can potentially be explained by research stemming from social judgment theory (Sherif & Hovland, 1961) and self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992). First, according to social judgment theory, the larger the discrepancy between the content of a message and the content of a person's self-attitude, the less likely that the person will be to accept the message and incorporate it into his or her self-concept. Therefore, the negative feedback may have fallen within the "latitude of rejection" of participants with high self-esteem because the discrepancy between the negative feedback and their positive self-attitudes might have been too large. Second, the finding that the failure manipulation did not have as large of an impact on participants with high self-esteem could also be interpreted in the context of self-verification theory. According to self-verification theory, people desire feedback that is consistent with their self-concept, and feedback that is inconsistent with one's self-concept tends to be met with resistance. Therefore, when participants with high self-esteem receive negative feedback, it may be more likely to be met with resistance compared to participants with low self-esteem because the negative feedback is inconsistent with their already positive self-concept.

Additionally, the implementation of this failure paradigm prior to the implementation of the positive self-statement manipulation may have contributed to the primary hypotheses of the experiment not being supported. Specifically, given that the failure task was successful at leading to a decrease in mood and self-esteem in participants with low self-esteem, it is possible that the slight increases in participants' mood and self-esteem scores that were found following the positive self-statement manipulation were not due to the positive self-statement manipulation,

but rather to a third variable – the passing of time. It is possible that the time that occurred between the end of the failure task and the end of the positive self-statement manipulation accounted for at least some of the change in participants' mood and self-esteem scores during that period because failure tasks of this sort are only intended to produce state changes in mood and self-esteem (Heatherton & Polivy, 1991). Thus, after a failure task of this sort, it would be expected that regardless of whether a positive self-statement manipulation was implemented, participants' mood and self-esteem scores would begin to move back toward their baseline scores after a period of time on their own. In the current experiment, the failure task led to a significant decrease in mood and self-esteem in participants with low self-esteem, and it led to a significant decrease in positive affect for participants with high self-esteem. Given that the failure task had at least some effect on all participants, it is possible that the changes in mood and self-esteem that occurred from the end of the failure task to the end of the positive self-statement manipulation could at least partially be accounted for by time. If the changes that occurred in participants' scores were primarily attributable to time and not the positive self-statement manipulation, one would expect that there would be no significant differences among the conditions on the dependent variables, which was the case in this experiment.

Explanation 2: Therapeutic Effect of Writing

Another possible explanation for why the primary hypotheses were not supported is that the act of writing in the positive self-statement manipulation had a therapeutic effect across all participants. In other words, the type of positive self-statement that participants wrote about might not have mattered as much as the fact that all participants wrote about a personal and emotionally laden topic. In fact, Pennebaker (1997) provided evidence that the act of writing about emotional experiences and topics had therapeutic effects on individuals' psychological and physical health. Therefore, if the changes that occurred in participants' mood and self-esteem levels were not primarily due to the type of positive self-statement that participants wrote about, but rather to the fact that writing had a therapeutic effect across all participants, one would expect there to be no significant differences among the three randomly assigned positive self-statement conditions in participants with low and high self-esteem, which was the case in this experiment. Additionally, in the experiment that was conducted by Wood and colleagues (2009), the positive self-statement manipulation asked participants to simply repeat a positive self-statement in their mind each time they heard the sound of a doorbell. Thus, given that the

positive self-statement manipulation in the current experiment asked participants to write about a randomly assigned positive self-statement, the difference in how the positive self-statements were administered may have contributed to the fact that Wood and colleagues' findings were not replicated in the current experiment.

Strengths, Limitations, and Future Directions

The present study had several notable strengths and limitations. One strength of the present study was that it used an experimental design to test the effects of two types of positive self-statements on individuals with low and high self-esteem. Testing this research question in an experimental context in which participants were randomly assigned to a positive self-statement condition allows for a greater degree of certainty that the results that were obtained were attributable to the positive self-statement manipulation. However, as was noted in the discussion of possible explanations for why the primary hypotheses were not supported in this study, there were still a number of other third variables in this study that may have clouded the results; namely, the passage of time from the end of the failure task to the end of the positive self-statement, and the fact that participants were asked to write about their randomly assigned positive self-statement as opposed to thinking about it. Another strength of the present study was that it tested the effectiveness of positive self-statements in a context (i.e. following a stressful or negative life event) in which individuals tend to report using such statements to boost their self-esteem and mood.

The present study also had several limitations. First, the positive self-statement manipulation (i.e. a writing task) may not be an accurate representation of how individuals tend to use positive self-statements in their everyday life. For instance, the self-help literature tends to recommend that people simply repeat various positive self-statements to themselves. It is thus unclear whether similar results would have been obtained if participants had been simply asked to think about their randomly assigned positive self-statement instead of being asked to write about it. As the present study was the first to test the effectiveness of stable/global and unstable/specific positive self-statements using a positive self-statement writing task, it will be important for future studies to determine whether writing about positive self-statements has any added benefit to individuals above and beyond the practice of simply repeating such statements to themselves. Additionally, future research should seek to test the impact of stable/global and unstable/specific positive self-statements in individuals after a negative life event using

manipulations that require participants to repeat positive self-statements to themselves in a way that is similar to the recommendations found in the self-help literature. A second limitation to the present study is that it used a college-aged non-clinical sample. It is thus unclear whether the same results would be found in individuals with clinically diagnosable mood disorders, or in individuals of different age groups and education levels. Future research should attempt to test the effectiveness of positive self-statements in clinical samples and in individuals of different age groups and education levels.

Conclusion

The results of the present study revealed that low and high self-esteem participants did not experience a significant difference in mood or self-esteem following the positive self-statement manipulation as a function of their randomly assigned condition. While there were no significant differences found among the three conditions, all participants did experience slight decreases in negative affect and slight increases in positive affect and self-esteem following the positive self-statement manipulation. Such findings provide evidence that using stable/global and unstable/specific positive self-statements are not necessarily harmful to individuals; however, there still may be an opportunity cost associated with using positive self-statements in the place of other techniques or treatment options that are more effective. In combination with the results of Wood and colleagues (2009), the results of the present experiment provide further evidence that using positive self-statements as a means of boosting mood and self-esteem may not be helpful for individuals with low self-esteem. Taking these findings into account, the self-help literature should use caution in promoting the use of positive self-statements to boost mood and self-esteem, as there is little evidence for the effectiveness of using such statements in a self-help context.

Table 1

Means and Standard Deviations for all Measures at Baseline, Post-Failure Task, and Post-Positive Self-Statement Manipulation (N = 195)

	<u>Positive Self-Statement Condition</u>				<i>F</i>	<i>p</i> -value
	<u>Total</u> <i>M (SD)</i>	<u>Stable/Global</u> <i>M (SD)</i>	<u>Unstable/Specific</u> <i>M (SD)</i>	<u>Control</u> <i>M (SD)</i>		
<i>Baseline</i>						
PANAS-NA	14.19 (4.62)	13.98 (4.48)	14.55 (5.06)	14.02 (4.28)	.32	.73
PANAS-PA	27.06 (7.88)	25.86 (7.68)	27.51 (7.56)	27.87 (8.41)	1.19	.31
SSES	73.84 (14.63)	71.64 (16.10)	76.62 (12.60)	73.10 (14.82)	2.11	.13
ARS	35.91 (5.22)	35.58 (4.70)	35.48 (5.76)	36.77 (5.10)	1.18	.31
<i>Post-Failure Task</i>						
PANAS-NA	15.49 (6.06)	15.48 (5.75)	15.62 (6.46)	15.42 (6.05)	.02	.98
PANAS-PA	23.53 (8.83)	22.70 (9.04)	23.16 (8.43)	24.92 (9.04)	1.08	.34
SSES	72.05 (16.78)	69.99 (18.20)	74.38 (15.25)	71.68 (16.75)	1.19	.31
ARS	35.19 (4.76)	34.51 (4.01)	35.43 (4.80)	35.65 (5.42)	1.04	.36
<i>Post-PSS Task</i>						
PANAS-NA	13.80 (5.22)	13.85 (5.28)	14.01 (5.66)	13.49 (4.65)	.16	.85
PANAS-PA	24.08 (9.28)	23.18 (9.32)	23.74 (9.39)	25.47 (9.10)	1.03	.36
SSES	74.01 (16.94)	71.37 (18.38)	76.40 (15.90)	74.27 (16.22)	1.50	.23
ARS	34.98 (6.00)	34.76 (6.07)	35.09 (6.14)	35.12 (5.87)	.07	.93

Note. PANAS-NA = Positive and Negative Affect Schedule (Negative Affect); PANAS-PA = Positive and Negative Affect Schedule (Positive Affect); SSES = State Self-Esteem Scale; ARS = Association and Reasoning Scale.

Table 2

Means, Standard Deviations, and Intercorrelations among All Variables in the Overall Sample (N = 195)

	1	2	3	4	5	6	7	8	9	10	11	12
1. PANAS-NA T1	-	-	-	-	-	-	-	-	-	-	-	-
2. PANAS-PA T1	.03	-	-	-	-	-	-	-	-	-	-	-
3. SSES T1	-.50*	.38*	-	-	-	-	-	-	-	-	-	-
4. ARS T1	-.17*	.25*	.29*	-	-	-	-	-	-	-	-	-
5. PANAS-NA T2	.70*	-.06	-.53*	-.24*	-	-	-	-	-	-	-	-
6. PANAS-PA T2	-.02	.83*	.38*	.21*	-.12	-	-	-	-	-	-	-
7. SSES T2	-.47*	.35*	.84*	.35*	-.67*	.43*	-	-	-	-	-	-
8. ARS T2	-.29*	.26*	.39*	.49*	-.34*	.34*	.48*	-	-	-	-	-
9. PANAS-NA T3	.72*	-.09	-.52*	-.29*	.85*	-.12	-.64*	-.33*	-	-	-	-
10. PANAS-PA T3	-.01	.78*	.40*	.22*	-.06	.87*	.40*	.32*	-.13	-	-	-
11. SSES T3	-.49*	.31*	.86*	.32*	-.63*	.40*	.94*	.43*	-.65*	.41*	-	-
12. ARS T3	-.21*	.21*	.39*	.52*	-.33*	.25*	.42*	.57*	-.40*	.23*	.40*	-
<i>MEAN</i>	14.19	27.06	73.84	35.91	15.49	23.53	72.05	35.19	13.80	24.08	74.01	34.98
<i>SD</i>	4.62	7.88	14.63	5.22	6.00	8.83	16.78	4.76	5.26	9.28	16.94	6.00

Note. PANAS NA T1 = Positive and Negative Affect Schedule (Negative Affect) at Time 1. PANAS PA T1 = Positive and Negative Affect Schedule (Positive Affect) at Time 1. SSES T1 = State Self-Esteem Scale at Time 1. ARS T1 = Association and Reasoning Scale at Time 1. PANAS NA T2 = Positive and Negative Affect Schedule (Negative Affect) at Time 2. PANAS PA T2 = Positive and Negative Affect Schedule (Positive Affect) at Time 2. SSES T2 = State Self-Esteem Scale at Time 2. ARS T2 = Association and Reasoning Scale at Time 2. PANAS NA T3 = Positive and Negative Affect Schedule (Negative Affect) at Time 3. PANAS PA T3 = Positive and Negative Affect Schedule (Positive Affect) at Time 3. SSES T3 = State Self-Esteem Scale at Time 3. ARS T3 = Association and Reasoning Scale at Time 3. * = $p < .01$.

Table 3

Means and Standard Deviations for all Pre- and Post-Failure Manipulation Measures (N = 196)

	<u>Overall Sample</u>		<u>Low Self-Esteem</u>		<u>High Self-Esteem</u>	
	<u>Time 1</u> <i>M (SD)</i>	<u>Time 2</u> <i>M (SD)</i>	<u>Time 1</u> <i>M (SD)</i>	<u>Time 2</u> <i>M (SD)</i>	<u>Time 1</u> <i>M (SD)</i>	<u>Time 2</u> <i>M (SD)</i>
PANAS NA	14.19 (4.62)	15.49 (6.01)	15.83 (5.08)	18.00 (6.79)	12.36 (3.15)	12.91 (3.72)
PANAS PA	27.06 (7.88)	23.53 (8.83)	25.19 (7.04)	21.20 (7.60)	28.93 (8.24)	26.11 (9.37)
SSES	73.84 (14.83)	72.05 (5.22)	65.10 (12.81)	62.05 (15.46)	82.95 (10.20)	82.47 (10.66)
ARS	35.91 (5.22)	35.19 (4.76)	34.59 (4.53)	33.58 (4.52)	37.35 (5.49)	36.85 (4.44)

Note. PANAS NA = Positive and Negative Affect Schedule (Negative Affect). PANAS PA = Positive and Negative Affect Schedule (Positive Affect). SSES = State Self-Esteem Scale. ARS = Association and Reasoning Scale.

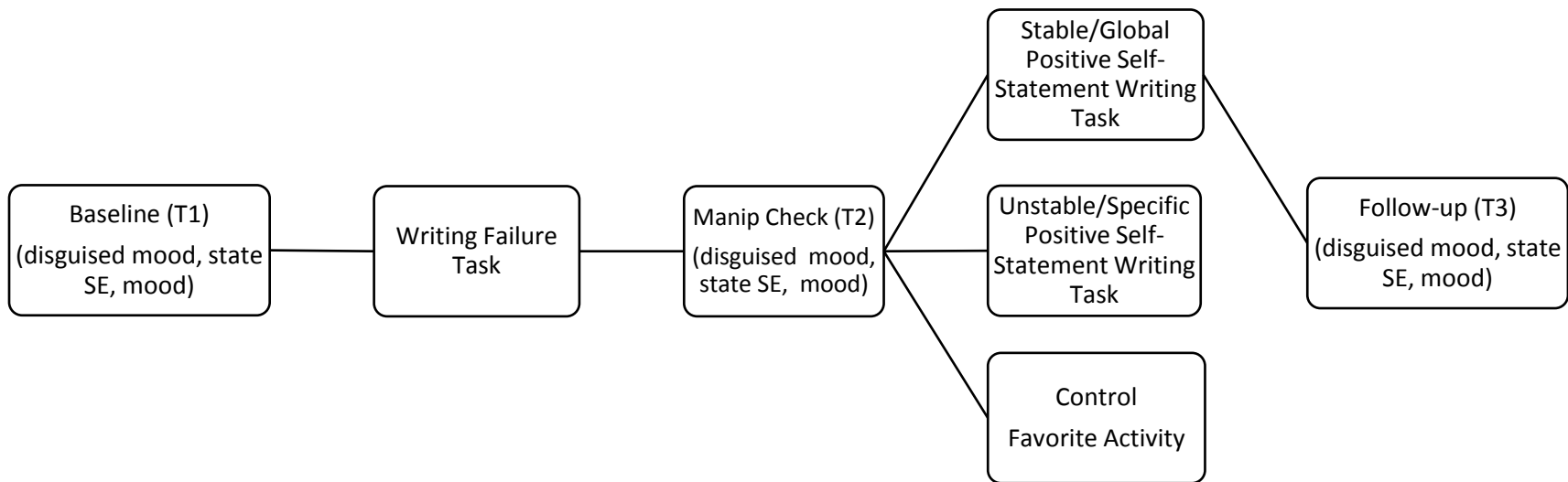


Figure 1. Experimental design to test the effects of stable/global and unstable/specific positive self-statements on self-esteem and mood.

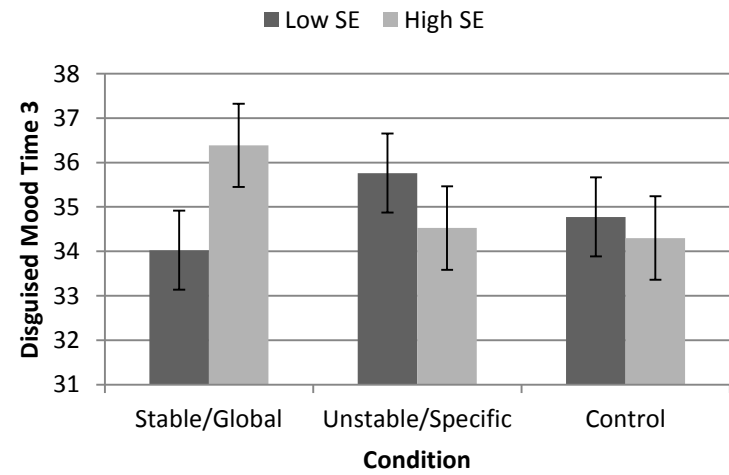
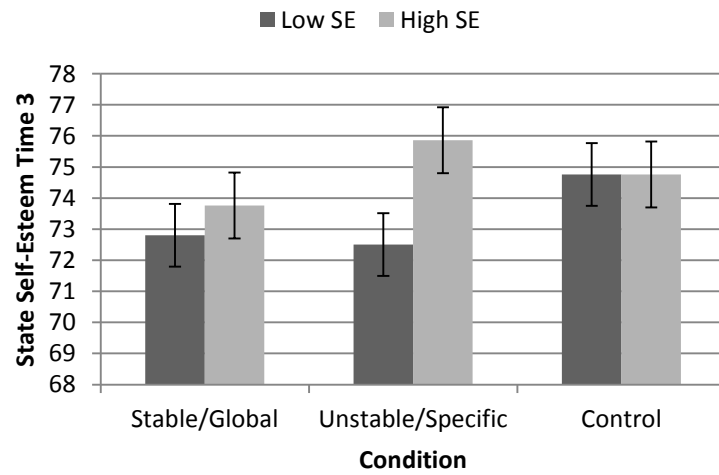
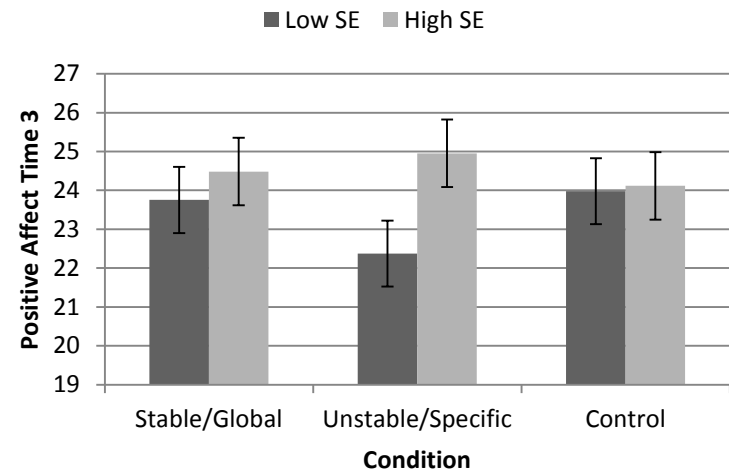
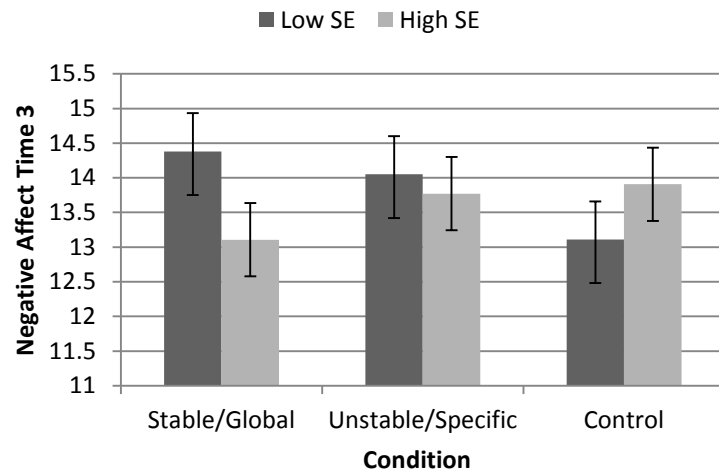


Figure 2. Low and high self-esteem participants' Time 3 (post-positive self-statement manipulation) negative affect, positive affect, state self-esteem, and disguised mood scores as a function of their randomly assigned positive self-statement condition.

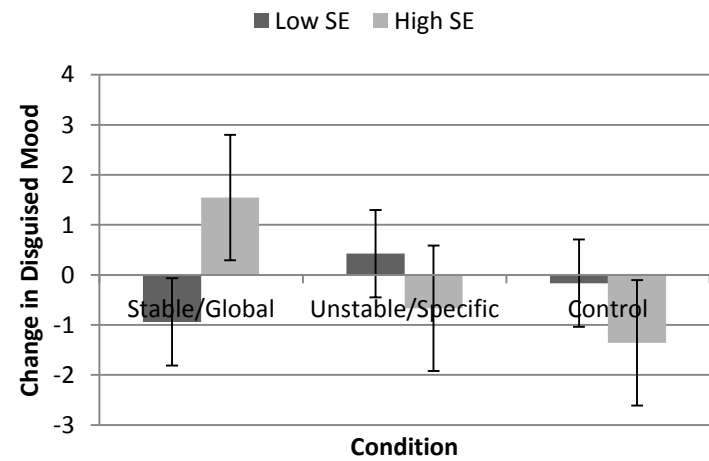
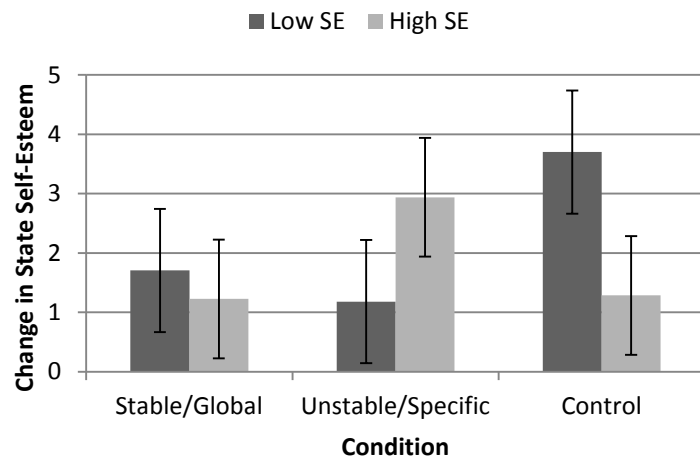
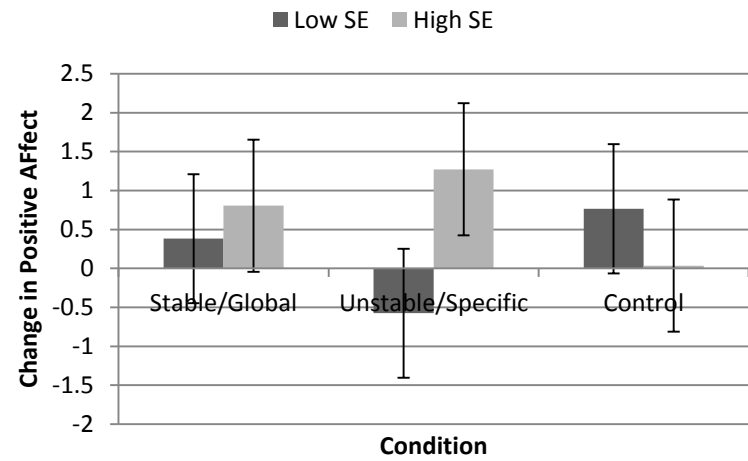
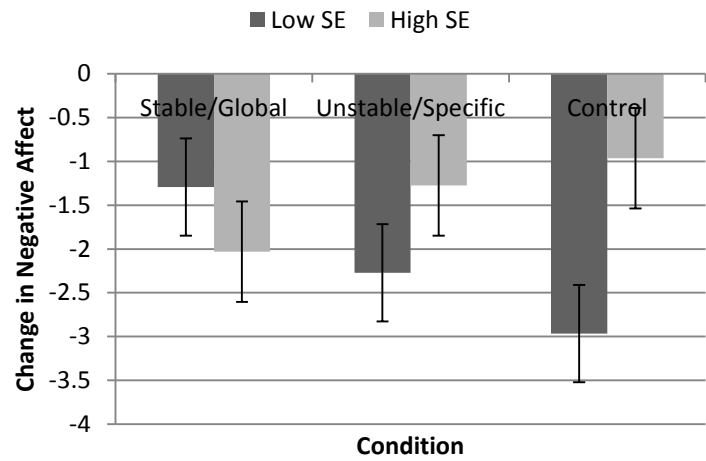


Figure 3. Low and high self-esteem participants' change in negative affect, positive affect, state self-esteem, and disguised mood scores from Time 2 (post-failure task) to Time 3 (post-positive self-statement manipulation) as a function of their randomly assigned positive self-statement condition.

APPENDIX A

COPY OF HUMAN SUBJECTS APPROVAL FORM

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 8/20/2009

To: Jennifer Hames

Dept.: PSYCHOLOGY DEPARTMENT

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
The Effect of Positive Self-Statements on Mood and Self-Esteem

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 08/12/2009. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 8/11/2010 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Thomas Joiner, Advisor
HSC No. 2009.2942

APPENDIX B

INFORMED CONSENT

Overview. The purpose of this study is to gain a better understanding of how people process and convey information through writing. If you agree to participate, you will be asked to write a brief essay and then critique another participant's essay. The essay you write will also be critiqued by another participant. It is important to note that no identifying information will be attached to the essays you write or any information that you provide throughout the study. You will also complete a series of brief questionnaires, which will ask you about your thoughts and mood. Overall, participation in this study should take about 1 hour.

Costs and Benefits. It is important to note that there are mild risks involved in participating in this study beyond those experienced in everyday life. Namely, it is possible that you will find some items in the questionnaire about your thoughts and mood to be upsetting. As a precaution, you will be provided with the contact information for the FSU Psychology Clinic at the end of your participation. You are, however, free to skip any questions that you are uncomfortable answering. Also, all of the information you provide in the questionnaires will remain confidential to the extent allowed by law. You will be given a participant identification number to ensure that no individual student will be identified, and none of the information you provide will be made available to anyone other than the research staff. In all data analyses and reports of this research, participants will be identified by their designated participant identification number. All of your data will be stored in a locked cabinet in the Psychology Department Building (PDB) in room A409, and all data collected in conjunction with this study will be destroyed in September of 2012. There is one limit to confidentiality. If you indicate that you may harm yourself, then we are legally obligated to contact you and possibly the appropriate agencies to provide you assistance.

In terms of benefits, by participating in this study, you may benefit from knowing that you are helping to contribute to the field of knowledge in psychology.

Compensation. You will receive 1 experiential learning credit for your psychology course for your participation in this study.

Please Note. Your decision of whether or not to participate will not prejudice your future relations with the psychology department at Florida State University. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty. **Participation is completely voluntary.**

Contact Information. This research is being conducted by Jennifer Hames and has been approved by Florida State University's Human Subjects Committee. If you have any questions, please ask the experimenter now, or at any point during or after your participation. You may also contact Jennifer Hames via e-mail with any further questions. You will be given a copy of this form for your records. This research is being conducted under the supervision of Dr. Thomas Joiner. Additionally, if you have any questions about your rights as a participant, you may contact the FSU Human Subjects Committee

Statement of Consent. I have read the above information, and I understand the nature of the research project. I am at least 18 years of age and have decided to participate having read the information provided above. I understand that my participation is voluntary and that I retain the right to withdraw my consent at any time without penalty.

Please sign below to indicate that you agree:

Signature

Date

REFERENCES

- Baumeister, R. F., Tice, D. M., & Hutton, D. G. (1989). Self-presentation motivations and personality differences in self-esteem. *Journal of Personality, 57*, 547-579.
- Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.) *Measures of personality and social psychological attitudes, Volume I*. San Diego, CA: Academic Press.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. New York: Harcourt Brace Javanovich.
- Faul, F., Erdfelder, E., Lang, A.G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Fiske, S. T., & Taylor, S. E. (1991). *Social Cognition* (2nd ed.). New York: McGraw-Hill.
- Forgas, J. P. (1992). Affect in social judgment and decisions: A multi-process model. *Advances in Experimental Psychology, 25*, 227-275.
- Harris, T. A. (1969). *I'm OK, you're OK*. New York: Avon Books.
- Heatherton, T.F. & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910.
- Joiner, T. E. (1995). The price of soliciting and receiving negative feedback: Self-verification theory as a vulnerability to depression theory. *Journal of Abnormal Psychology, 104*, 364-372.
- Joiner, T. E., Alfano, M. S., & Metalsky, G. I. (1993). Caught in the cross-fire: Depression, self-consistency, self-enhancement, and the response of others. *Journal of Social and Clinical Psychology, 12*, 113-134.
- Johnson, J. T. (1991). *Celebrate you! Building your self-esteem*. Minneapolis, MN: Lerner.
- Josephs, R. A., Bosson, J. K., & Jacobs, C. G. (2003). Self-esteem maintenance processes: Why low self-esteem may be resistant to change. *Personality and Social Psychology Bulletin, 29*, 920-933.
- Kling, K. C., Hyde, J. S., Showers, C. J., & Buswell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin, 125*, 470-500.
- Mayer, J. D., & Hanson, E. (1995). Mood-congruent judgment over time. *Personality and Social Psychology Bulletin, 21*, 237-244.
- McWilliams, P. (1994). *Life 101: Everything we wish we had learned in school – but didn't*. Los Angeles: Prelude Press.
- Paul, A. M. (2001). Self-help: Shattering the myths. *Psychology Today*, March.

- Peale, N. V. (1952). *The power of positive thinking*. New York: Prentice-Hall.
- Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8*, 162-166.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Sherif, M., & Hovland, C. I. (1961). *Social judgment: Assimilation and contrast effects in communication and attitude change*. New Haven, CT: Yale University Press.
- Singer, J. A., & Salovey, P. (1988). Mood and memory: Evaluating the network theory of affect. *Clinical Psychology Review, 8*, 221-251.
- Swann, W. B., Stein-Seroussi, A., & Giesler, B. (1992). Why people self-verify. *Journal of Personality and Social Psychology, 62*, 392-401.
- Swann, W. B., Wenzlaff, R. A., Krull, D. S., & Pelham, B. W. (1992). Allure of negative feedback: Self-verification strivings among depressed persons. *Journal of Abnormal Psychology, 101*, 293-306.
- Swann, W. B., Wenzlaff, R. A., & Tafari, R. W. (1992). Depression and the search for negative evaluations: More evidence of the role of self-verification strivings. *Journal of Abnormal Psychology, 101*, 314-317.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social-psychological perspective on mental health. *Psychological Bulletin, 103*, 193-210.
- Watson, D., Clark, L. A., & Tellegen, A. (1998). Development and validation brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Wood, J. V., Perunovic, E., & Lee, J. W. (2009). Positive self-statements: Power for some, peril for others. *Psychological Science, 20*, 860-866.
- Zanna, M. P. (1993). Message receptivity: A new look at the old problem of open-versus closed-mindedness. In A. Mitchell (Ed.), *Advertising exposure, memory and choice* (pp. 141-162). Hillsdale, NJ: Erlbaum.

BIOGRAPHICAL SKETCH

Jennifer Hames was born in Palos Heights, IL in 1987. She graduated from Amos Alonzo Stagg High School in Palos Hills, IL in 2005. She attended the University of Notre Dame in Notre Dame, IN where she graduated *summa cum laude* with a Bachelor of Arts degree in Psychology in 2009. She is currently a graduate student in the doctoral program in Clinical Psychology at Florida State University.

Jennifer's research interests lie in understanding the cognitive and interpersonal processes that contribute to the etiology and maintenance of depression and suicidal behavior.