

MODELING DIFFERENTIAL RESPONSES TO CHRONIC AND SITUATIONAL EGO
THREAT: ATTENTIONAL VIGILANCE AND STRATEGIC AVOIDANCE

by

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(Under the Direction of Leonard L. Martin)

ABSTRACT

Ego threats, such as social rejection, yield powerful effects on people's cognitions and behaviors. Two findings in particular appear to be somewhat contradictory: socially rejected individuals exhibit greater attention to self by some measures (e.g., Crocker, Lee, & Park, 2004) and greater avoidance of self by others measures (Heatherton & Baumeister, 1991; Twenge et al., 2003). Cognitive models of various clinical disorders such as social phobia (Amir et al., 1998) and anxiety (Bradley et al., 1998) offer a resolution to these apparently contradictory findings in the self-esteem threat literature by positing two separate pathways through which individuals respond to threatening stimuli: attentional vigilance toward the stimuli followed by avoidance of the threatening stimuli. The current study attempted to apply such a clinical vigilance-avoidance model to individuals' responses to self-esteem threats. To test this model, participants received randomly assigned success or failure feedback on a purportedly important cognitive functioning task (an acute ego threat). Next, participants completed a lexical decision task (LDT) containing success- and failure- and task-related words (measuring attention to potentially threatening stimuli). Then participants explored a supposed personality profile outlining ten each of their positive and negative qualities (an opportunity to avoid self-relevant

information). In addition, I examined a constellation of individual difference measures that described an individual with fragile feelings of self-worth (a kind of chronic ego threat). Primary results supported an attentional vigilance to task-related words for one marker of chronic ego-threat (contingent self-esteem). Additional analyses revealed a pattern of results for individuals with highly contingent self-esteem indicative of vulnerable, fragile feelings of self-worth. Discussion centers on how the current findings suggest avenues for future research exploring alternative mechanisms through which fragile self-esteem may develop and be maintained.

INDEX WORDS: Self-esteem, Contingent self-esteem, Ego threat, Attention

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DEDICATION

For my adviser, you pushed me and challenged me, sometimes in ways that I did not like, but in ways I ultimately came to appreciate and understand. For my colleague, you had a brilliant mind and a generous spirit, and as a person you were tenacious, creative, and funny. For my champion and coach, you offered unwavering encouragement and support, believing I could accomplish anything when others (including myself) did not. For my mentor, you offered me incredible opportunities, opportunities I often did not feel that I deserved, not the least of which was the chance to be your student. You gambled on a naïve twenty-one year old girl from Kentucky and as a result changed her life for the better in immeasurable ways. For my friend, though I can no longer tangibly seek your feedback or visibly make you proud, I can still express my gratitude by fighting for everything I want in life as you did. For Mike, my adviser, colleague, champion, coach, mentor, and friend, thank you.

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CHAPTER 1

INTRODUCTION

Threats to one's self-worth are powerful. Such threats, collectively termed "ego threats" can come in the form of insults, negative performance feedback, social rejection, exclusion, or ostracism. Threats to self-esteem produce a number of cognitive and behavioral effects. For example, social rejection has been linked to impaired cognitive functioning, specifically in complex tasks like logic and reasoning tasks (Baumeister, Twenge, & Nuss, 2002). Similarly, some research suggests that ego threats induce a "deconstructed mental state," (Twenge, Catanese, & Baumeister, 2003), or even feeling physically numb (DeWall & Baumeister, 2006). Moreover, social rejection and negative feedback have been linked to behavioral responses such as increased aggression against the threatening target (Twenge, Baumeister, Tice, & Stucke, 2001) and decreased prosocial behavior (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007).

In addition to situational ego threats, some individual differences, such as fragile forms of self-esteem (Kernis, 2003) are described as chronic states of self-worth being "on the line" or "ego-involved" (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000). Like situational ego threats, these chronic states of ego-threat have been linked to a number of cognitive and behavioral consequences. For example, across multiple markers of self-esteem fragility, individuals with secure forms of self-esteem were less verbally defensive in recounting negative past behaviors. Much research has investigated individuals with particular forms of fragile

versus secure high self-esteem. For example, individuals with high explicit but low implicit self-esteem (i.e., fragile) have exhibited self-serving and outgroup derogating responses (Jordan, Spencer, & Zanna, 2003; Kernis, et al., 2005). Likewise, individuals with high global SE and highly unstable SE have been linked to greater aggression and hostility (Kernis, Grannemann, & Barclay, 1989), greater reactivity to daily events (Greenier, et al., 1999), and more depressive symptoms in response to daily hassles (Kernis, et al., 1998).

As is clear, the research on threats to self-worth, both chronic and acute, encompasses a wide array of behavioral and cognitive (although perhaps less so) outcomes. In fact, two general outcomes from chronic and situational states of ego-threat are at first blush contradictory. In particular, ego-threatened states have been linked in some instances to greater self-focus. For example, Crocker and colleagues (e.g., Crocker, Lee, & Park, 2004) have demonstrated increased negative self-evaluative thoughts following failure in a conscious thought listing task, as well as faster automatic associations between failure and self following threat (for individuals with low, but highly academically contingent self-esteem). On the other hand, ego threats have been consistently linked to a generalized avoidance of self-awareness, and, similarly to avoidance and distortion of self-relevant information. Ego-threatened individuals avoid self-awareness through benign behaviors such as avoiding sitting facing a mirror (Twenge et al., 2003), as well as more destructive behaviors such as binge eating (Heatherton & Baumeister, 1991). Also, in the presence of information incongruent with strongly held self-views individuals selectively prefer and elicit self-verifying feedback (e.g., Swann & Read, 1981). Likewise, when confronted with negative past behaviors and aspects of themselves, some individuals display an avoidance and

distortion of one's role in and emotional responses to such negative behaviors (Kernis, Lakey, & Heppner, 2008).

How can both of these somewhat contradictory processes, that is, increased self-focus and decreased self-awareness, occur in response to esteem threats? The current research tests the supposition that both processes occur following ego-threats, but at temporally distinct points along a single path. Specifically, I proposed a two-part model of ego-threat response composed of a ruminative consumption of thoughts focused on self-esteem relevant or evaluative content, followed by a strategic avoidance of self-relevant stimuli. In addition, this model posits that chronic tendencies toward ego-threatened or ego-involved states (i.e., personality traits) may buffer or exacerbate both the focus and avoidance responses.

Here I will describe this model of ego-threat response, drawing on clinical and classic social psychological literatures to formulate the model. I will first describe the self(-esteem) focus or evaluative rumination component. Then, I will describe the strategic avoidance component. Next, I will describe a constellation of individual difference measures that represent chronic ego threats and how each may impact various aspects of the proposed model. Finally, I will detail an intensive longitudinal study that I employed to test these attention and avoidance effects in response to both chronic and situational ego-threats.

Self-focused attention and evaluative rumination

Threats to one's ego initiate intrapsychic, cognitive activities. In an elegant series of studies, Baumeister and colleagues (Baumeister, DeWall, Ciarocco, & Twenge, 2005) demonstrated that ego threats of a social nature (social rejection and exclusion) impaired subsequent attempts at self-regulation. Specifically, in these studies rejected or excluded

individuals failed to make themselves perform unwanted tasks, to persist at difficult tasks, and to control attention in dichotic listening tasks. Importantly, ego threat prompted what appears to be a consumption of cognitive resources, akin to rumination or a cognitive load, as these self-regulatory failures were not mediated by mood or emotion. Similarly, research on interrupted goal pursuit reveals a ruminative reaction to discrepancies between one's current self and one's desired self (see, for example, Martin & Tesser, 1996). For example, Koole and colleagues (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999) demonstrated increased recognition of failure related words, that is, accessibility of goal-related thoughts, following negative feedback on an intelligence test.

In the clinical literature, researchers have identified several “transdiagnostic processes” at work, the attenuation of which help treat a wide variety of disorders (Baer, 2007). Among these transdiagnostic processes are self-focused attention and rumination, (another, experiential avoidance is discussed below). Self-focused attention is linked to negative affect (Mor & Winquist, 2002), and rumination is linked to depressed mood and depressive relapse (Segal, Williams, & Teasdale, 2002). Clinicians theorize that these processes contribute to the origination and maintenance of myriad disorders, such as specific and social phobias, generalized anxiety and panic disorders, obsessive-compulsive disorder, and substance abuse and dependence. The current research similarly posits that maladaptive responses to ego threats will involve these processes, but combines these into one primary response of ruminative, evaluative self-focus.

Along these same lines, clinical models of a variety of specific disorders, especially anxiety disorders, reveal automatic focus toward threatening stimuli. Anxious individuals, for

example, allocate more attentional resources toward threat-relevant stimuli, such as threatening faces, compared to neutral faces (Bradley, Mogg, Falla, & Hamilton, 1998), and words related to physical threats (“disease”) and social threats (“failure”) compared to neutral words (Williams, Mathews, & MacLeod, 1996). In addition, some research suggests that anxious individuals' attentional vigilance for socially-relevant stimuli (e.g., faces compared to household objects) is magnified following an acute social threat, such as expecting to give a public speech, compared to low anxious individuals (Mansell, Clark, Ehlers, & Chen, 1999; Sposari & Rapee, 2007). Across many studies with varying measures of attentional allocation (e.g., dot-probe, Stroop tasks, etc.), this automatic attentional vigilance is regarded as a sign of the threatening nature of these stimuli to people with social anxiety. In addition, these effects generalize to other disorders and characteristics with relevant stimuli; for instance, social drinkers exhibit attentional vigilance to alcohol-related stimuli (Townshend & Duka, 2001). For acute ego threats, as will be employed in the current study, the appropriate threat-relevant stimuli would be words relevant to evaluation and self-worth (e.g., “win” or “defeat”).

The current research hypothesizes that, similar to social rejection research and clinical and addiction research, following an acute ego threat individuals will be consumed with self-focus and evaluative, ruminative thoughts. Specifically, I hypothesize that, following negative performance feedback on an ability-based task, individuals will respond faster on a lexical decision task to words that are evaluative in nature, compared to neutral words and non-words.

Avoidance of Evaluative Self-relevant Stimuli

In addition to self-focused attention and rumination, another transdiagnostic process that has been identified in the clinical literature is experiential avoidance, or unwillingness to

experience or efforts to escape experiences that put individuals in touch with their emotions, thoughts, memories, or other internal states or experiences (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance encompasses such strategies as thought suppression and overgeneral autobiographical memory which contribute to maladaptive coping mechanisms (Hayes et al., 1996) like substance abuse and addiction, as well as clinical disorders like social phobia, PTSD, OCD, and depressive symptoms.

In line with clinical models of automatic “vigilance” effects, clinical models of a variety of disorders, especially anxiety disorders, also reveal an automatic avoidance of threat stimuli. Typically, the automatic avoidance manifests at longer stimulus duration intervals or to distinct threat-relevant stimuli. For example, Amir, Foa, and Coles (Amir, Foa, & Coles, 1998) found that generalized social phobics exhibited suppression of the meaning of socially-relevant words with longer stimulus onset asynchrony following cue sentences. Likewise, in addition to attention allocation toward threatening faces at short stimulus durations, Bradley and colleagues (Bradley et al., 1998) found an automatic avoidance of happy faces compared to neutral faces in anxious individuals, and this avoidance was linked to greater dysphoria. The current research similarly posits that an avoidance process will manifest following ego-threat. However, distinct from the clinical literature, participants are expected to exhibit a controlled, strategic avoidance of threat-relevant stimuli, rather than an automatic attentional avoidance. Specifically, I hypothesized that ego-threatened participants will be less interested in and spend less time viewing evaluative information about themselves.

Similarly, classic social psychological theory of objective self-awareness also informs this strategic avoidance component. Objective self-awareness theory states that when individuals

become aware of a discrepancy between their current self and the standard they or society has set for themselves, this experience is unpleasant and causes them to avoid further self-awareness or to change their actions in line with this desired self or standard. In line with this avoidance component, Greenberg and Musham (Greenberg & Musham, 1981) found that inducing self-discrepancies in participants made them less likely to select a chair facing a mirror, and less interested in hearing their own voices on a tape-recording. Similarly, Twenge, Catanese, and Baumeister (Twenge et al., 2003) demonstrated that following a social rejection, people were avoidant of self-awareness, less likely to sit facing a mirror. In the context of the current model, it is hypothesized that ego threat will lead to an evaluative self-focus, in line with objective self-awareness theory, and that to the extent this self-focus is unpleasant, it will lead to an avoidance of self-awareness and self-relevant information. Specifically, following failure feedback on an ability-based task and resultant evaluative self-focus, participants presented with an opportunity to view a self-relevant personality profile containing positive and negative feedback will be less interested in and spend less time viewing such evaluative self-relevant feedback.

Individual Differences in Ego-threat Responses

Importantly, some personality characteristics could also impact the basic cognitive processes involved in ego-threat responses. Generally, two kinds of variables should be important in this respect: variables related to the characterization and maintenance of one's feelings of self-worth, and variables involved in cognitive processes like attention (especially self-focused attention), rumination, and biased (versus unbiased) processing. The former group of variables may approximate a chronic state of ego threat (i.e., ego-involvement). The latter group of variables represent biased (versus unbiased) processing variables, especially toward

evaluative and/or self-relevant information. Together, this constellation of variables should approximate the state of being ego-involved in one's experience.

The two processes involved in the proposed model allow for two main predictions regarding the role of these individual differences in ego-involvement on ego-threat response. First, individual differences may buffer the ruminative, evaluative self-focus that follows an ego-threat. In this way, less ego-involvement may be related to a mitigated primary, attentional threat response. That is, "threat" may be less "threatening" to some individuals (i.e., those who are not ego-involved).

Second, personality may moderate only the overt, defensive process of self-relevant information avoidance. In this way, the evaluative cognitive load that follows ego-threat may be relatively automatic and occurring in the majority of people (not moderated by personality), but an open nondefensive personality may yield an openness to and reduced avoidance of self-relevant information. In other words, individuals with an open, nondefensive personality, or secure feelings of self-worth may be just as willing to devote attention toward themselves following an ego-threat as following positive feedback. In this case, "threat" may still be "threatening" to non-ego involved individuals, but their overt, strategic response would be more open and less defensive (that is, less avoidant). Below, I detail the specific variables I intend to measure to capture these potentially important individual differences in ego-involvement.

Chronic states of ego threat. Research on self-esteem has begun to differentiate among positive feelings of self-worth by utilizing the fragile versus secure distinction (Kernis, 2003). Individuals who exhibit fragile feelings of self-worth are thought to experience their self-worth as being "on the line" or "ego-involved". This terminology suggests a ruminative attention to

esteem-related stimuli, however, these specific claims have not been tested at the level of basic cognitive processes. Likewise, Kernis and colleagues (Greenier, et al., 1999; Kernis, Greenier, Herlocker, Whisenhunt, & Abend, 1997) support the contention that personality plays a role in attentional and informational processes. Specifically, they posit that individuals with unstable self-esteem possess an "evaluative set" comprised of (a) *orientation* toward evaluative information or events, (b) *bias* toward the interpretation of events as self-esteem relevant, and (c) *linking* momentary self-esteem to such self-esteem relevant events. The model proposed here would support the notion of an automatic orientation toward evaluative information or events in response to threat predicted from certain forms of self-esteem. Moreover, the current research will address the "bias" and "linking" components of the evaluative set by asking participants about the self-esteem relevance of their performance on the ability-based task, and about their immediate level of self-esteem following their performance feedback.

In the context of the current model, I hypothesized that secure feelings of self-worth would moderate both the automatic evaluative self-focus following an ego-threat, as well as the avoidance of self-relevant information. Directly addressing the "evaluative set" model, I hypothesized that individuals with fragile self-esteem would report lower momentary self-esteem immediately following the negative feedback, and would link their self-esteem more to their performance feedback.

I also included narcissism as an assessment of fragile or vulnerable feelings of self-worth. Narcissists are particularly reactive to ego threats (Bushman & Baumeister, 1998; Twenge & Campbell, 2003). Their evaluative cognitive load may be exaggerated compared to low narcissists. Furthermore, there still remains some debate about the nature of narcissism,

particularly if it is one form of fragile or defensive self-esteem or if it is qualitatively distinct. The convergence of (or lack of) cognitive responses to ego-threat among individuals with high but fragile self-esteem and individuals high in narcissism will be informative in this regard.

Non-defensive processing. The qualities of authenticity and mindfulness should, in contrast, reflect the opposite of a state of chronic ego threat. Authenticity and mindfulness have both been linked to less defensive behavioral outcomes, such as verbal defensiveness in recounting negative life events (Lakey, Kernis, Heppner, & Lance, 2008), and behavioral and self-reported aggression (Heppner, et al., 2008). The quality of mindfulness is particularly pertinent to the present investigation because of previous literature showing basic attentional differences from in people who are or are made mindful (Wenk-Sormaz, 2005). In addition, mindfulness relates weakly or negatively to aversive forms of self-consciousness (i.e., self-focus), as well as negatively to general ruminative tendencies (Brown & Ryan, 2003). In the current research, mindfulness should be linked to less evaluative self-focus, and less ruminative tendencies in response to an acute threat. In addition, mindful individuals should not exhibit "bias" or "linking" as much because of the non-reactivity and focus on the present. Moreover, mindful individuals may not exhibit self-information or self-awareness avoidance because of the focus on the present inherent in mindfulness.

Furthermore, noting the effectiveness of mindfulness training for a panacea of clinical mood and disturbance disorders, other researchers (Baer, 2007) have suggested that mindful dispositions and mindfulness-based therapies may confer benefits on people through the transdiagnostic processes discussed above. That is, mindfulness may reduce self-focused

attention, (or perhaps a certain type of evaluative self-focused attention), reduce rumination, and reduce avoidance of self-awareness.

The current research

This study serves to examine the basic cognitive processes and more deliberate self-relevant information seeking and evaluation processes to describe early and basic cognitive responses to acute and chronic states of ego-threat. To investigate this, I designed a longitudinal study to examine (a) a constellation of personality measures reflecting fragile versus secure feelings of self-worth and biased and unbiased processing styles; (b) early automatic cognitive responses to ego threat, presumably a ruminative, self-esteem related cognitive load; and (c) strategic or more deliberate avoidant responses to ego threat and evaluative self-focus.

I hypothesized that individuals with fragile feelings of self-worth and biased processing styles would exhibit enhanced attention to self-esteem threatening stimuli and less interest in self-relevant, evaluative information, and that both of these effects would arise particularly following a self-esteem threat. Therefore, in this study, I expected that fragile self-worth and biased processing styles would be linked to faster responses to words that were evaluative or evaluative-task related on a lexical decision task and to less viewing of positive and negative items on a purported personality profile. These effects should be exacerbated by failure feedback on an ego-relevant task, here, a maze-solving task which ostensibly predicts important abilities for success in life. Exact hypotheses relating to each set of dependent measures are further elaborated below, in the description of the phase 3 procedure and measures.

CHAPTER 2

METHOD

Participants and Procedure

Phase 1

132 undergraduates initially participated in this study for partial fulfillment of a course requirement. In small groups of 5-10 individuals, participants were given an overview of the study, described as an investigation of the effects of personality on cognitive functioning and perception. Next, participants completed a battery of individual difference measures administered on computer. These individual difference measures are described below.

Rosenberg self-esteem scale (RSE; Rosenberg, 1965). This measure of global feelings of self-worth is comprised of ten items (e.g. “I am a person of worth”). Participants are instructed to respond to each item on a 5 point scale, with anchors “Strongly Disagree” (1) and “Strongly Agree” (5), and they are instructed to respond based on how they *typically* or *generally* feel. Scores were summed such that higher scores reflect higher or more positive self-esteem.

Contingent self-esteem scale (CSES; Paradise & Kernis, 1999). The CSES assesses individual differences in the degree to which participants feel their self-esteem is dependent upon external standards (e.g. physical attractiveness). Participants rate how much each of 15 statements is “like them” on a 1 (“Not at all like me”) to 5 (“Very much like me”) Likert-scale. Higher scores reflect more contingency of self-esteem.

Contingent self-worth scale (Crocker & Wolfe, 2001). The CSW assesses seven different domains in which an individual's self-esteem may be contingent (e.g., academics). This 35-item measure asks participants to respond on a 1 (“Strongly disagree”) to 7 (“Strongly agree”) Likert-scale, where higher scores on a domain reflect greater contingency of self-esteem on that domain. For the current study, domains of “academics” and “competition” correlated fairly strongly ($r(103) = .49, p < .001$) and theoretically related most to the current ego threat, therefore I used a composite of these two sub-scales as the measure of CSW.

Implicit self-esteem. Participants completed two measures of implicit self-esteem, the Name Letter Task (Koole, Dijksterhuis, & van Knippenberg, 2001), and a relatively new three-item measure of name liking recently shown to reflect implicit feelings of self-worth (Gebauer, Riketta, Broemer, & Maio, 2008).

Instability of self-esteem. Participants completed two measures of self-esteem instability. The Instability of Self-esteem Scale (Chabrol, Rousseau, & Callahan, 2006) is a 4-item inventory including items such as “Sometimes I feel worthless; at other times I feel that I am worthwhile.” Participants responded to each item on a 0 (“Disagree Strongly”) to 3 (“Agree Strongly”) Likert-scale such that higher scores reflect more instability of self-esteem. The second measure of self-esteem instability was assessed in phase 2 and is described below.

Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The NPI is a 40-item forced choice measure which assesses inflated or grandiose self-views. Respondents select one of two responses from 40 pairs which best describes them. For example, respondents select one of the following statements: “I am much like everybody else” or “I am an extraordinary person”. Items were scored such that higher scores reflect more narcissism.

Mindfulness. Participants completed two measures of mindfulness. The Mindful Attention Awareness Scale (Brown & Ryan, 2003) is a 15-item, unidimensional scale that measures the degree to which participants are on “automatic pilot” in their day-to-day life. The Five Facet Mindfulness Questionnaire (FFMQ) is a multi-faceted measure of mindfulness proposed by Baer and colleagues (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). This 39-item measure assesses nonreactivity, observing, acting with awareness, describing, and nonjudging subscales of the total mindfulness construct.

Authenticity (AUTH, Kernis & Goldman, 2006). The 45-item authenticity measure is comprised of four separate but interrelated components: awareness, unbiased processing, behavior, and relational orientation. Participants responded to each item on a 1 (“Strongly Disagree”) to 5 (“Strongly Agree”) Likert-scale such that higher scores reflect more dispositional authenticity.

Self-compassion (SCOMP; Neff, 2003). This 26-item measure assesses participants attitudes toward themselves in difficult times using items such as “I’m tolerant of my own flaws and inadequacies”. Participants responded to each item on a 1 (“Almost Never”) to 5 (“Almost Always”) Likert-scale such that higher scores reflect more self-compassion.

Phase 2

Instability of self-esteem. Participants completed the stability of self-esteem assessment online over the course of one week. Participants completed an online version of a modified Rosenberg self-esteem scale (1965). Whereas the trait measure of self-esteem instructs participants to report on how they *typically* or *generally* feel about themselves (thus tapping enduring dispositions), the modified Rosenberg used for instability of self-esteem instructs

participants to report how they are feeling *at that moment*. Participants were instructed to complete one modified Rosenberg scale starting at 10 pm on Monday evening, at 10 am and 10 pm Tuesday through Thursday, and finally again at 10 am Friday morning, for a total of 8 possible observations.

Calculation of instability of self-esteem involves examination of individual self-esteem assessments for adherence to collection guidelines and elimination of individual assessments which do not meet collection guidelines. In addition, participants' entire set of instability data are removed if they do not successfully complete a minimum number of assessments within collection guidelines (typically a minimum of 5 or 6; see Kernis, Lakey, & Heppner, 2008). Using “5” as a minimum number of “good” assessments, examination of the online data time stamps revealed 78.8% (n = 104) adherence to collection guidelines by the overall sample. The standard deviation of these (up to) 8 assessments serves as an ecologically valid measure of self-esteem instability (higher standard deviations reflect more instability).

Phase 3

Participants returned to the lab for the third and final phase from one to three weeks after completion of phase 2. In individual sessions, participants were told that this portion of the study was examining cognitive functioning and perception, and that, if they were interested, at the end of this session, they would be given the opportunity to peruse some preliminary results of the personality profile they completed in phase 1. For each component of phase 3, experimenters first verbally explained the purpose of and instructions for each task, and the computer screen reiterated these instructions with text on-screen. Participants were also encouraged to ask the experimenters any questions they had before beginning a particular task.

Five participants' data were excluded due to suspicion regarding the phase 3 procedures. An additional 24 participants missed phase 3 data collection due to inclement weather and subsequent scheduling conflicts leaving 103 participants with usable phase 1 and phase 3 data. Of these 103 participants, examination of their phase 2 data revealed similar adherence to phase 2 collection guidelines to that of the overall sample: 79.6% (n = 82). However, the complete set of 103 participants was retained for analyses, as an alternative, single-session self-report measure of instability of self-esteem (ISES) was also collected in phase 1 (described above).

Ego threat: Maze completion success and failure. Participants were told that they would first complete a series of three mazes. Experimenters explained that “maze-solving abilities are a measure of an important cognitive function, that of looking ahead to foresee whether a particular path will lead to success.” Experimenters also emphasized that this ability to anticipate future consequences of our actions is important for success in many other life domains, and that in the mazes tasks, we were measuring this ability to see and apply the outcome of potential paths, and then we would be giving them feedback on their performance. Participants were then told to complete the mazes on their paper-and-pencil copies of the mazes as fast as they could, and to submit their completion time by hitting the “submit time” button on-screen. Ostensibly, this submitted their time to an online database of other University of Georgia students' maze completion times, and subsequently calculated and reported a percentile rank for their performance on that particular maze.

For participants in the success feedback condition, they were given solvable mazes and ample time in which to finish them; additionally, their comparison feedback was positive, with percentile ranks of 85th, 91st, and 89th. For participants in the failure feedback condition, they

were given unsolvable mazes, inadequate time in which to finish them, and negative comparison feedback—percentile ranks of 45th, 39th, and 43rd percentile. Similar procedures have been used to arouse self-esteem threat and yield biased (i.e. self-serving) attributions about performance (e.g., Knee & Zuckerman, 1996; Heppner & Kernis, 2009).

Early attentional vigilance: Lexical Decision Facilitation. Participants were then asked to complete a measure of “basic perception,” which was actually a lexical decision task (LDT). Participants were asked to decide, as quickly and accurately as possible, whether or not a string of letters presented on-screen comprised a word. Importantly, the letter strings to which participants responded fell into five categories: positive evaluative words, negative evaluative words, maze/task words, neutral words, and non-words. A complete list of these words is provided in Appendix A; these words were matched on word frequency, familiarity, and number of letters (Foster, personal communication, 2008) using an online database (Balota et al., 2007).

Experimenters administered this LDT via DirectRT software which recorded the lexical decisions in milliseconds. For each trial, a cross-hair presented midscreen prepared participants for the upcoming letter string. Participants made responses as soon as the letter string appeared, and pressed the space bar to move onto the next trial when they were ready. Participants were instructed on-screen to press “J” on the keypad for words and “F” for non-words. There were 10 practice trials with neutral words and non-words. During the experimental trials, the five word/non-word categories were presented in random orders for all participants.

As an alternative measure of the attention capturing power of the different word categories, at the end of the experimental session, participants were asked to recall as many stimulus words as they could from the LDT (maximum of five). Systematic variation in this

LDT recall measure would provide a complementary attentional vigilance or attentional bias demonstration.

Hypothesis 1: Previous research has demonstrated that threatening stimuli encountered at short intervals are processed more quickly than neutral or non-threatening stimuli (Amir et al., 1998; Bradley et al., 1998). Thus, I hypothesized that participants in the failure condition of the mazes task would process words in the failure and task/maze categories faster than participants in the success condition, and that individuals with fragile self-esteem and biased processing styles would exhibit this facilitation to a greater extent than those individuals with secure self-esteem and unbiased processing styles.

Strategic self avoidance: Personality feedback interest and engagement. Following the LDT, participants were given a chance to peruse their “personality profile,” ostensibly computed from phase 1 of the study. I modeled this self-information seeking paradigm after Djick, Peterson, and Zelazo (2005). In this procedure, participants are shown a prompt for 10 positive and 10 negative statements about their personality on a supposed “home screen” of a website. They are told that they can view as many or as few of the statements as they wish, and can view each statement multiple times if they wished to do so. Once viewed, each item's hyperlink changed color, so that viewing an item more than once indicated an intentional re-viewing, rather than forgetting which items had been viewed. The computer recorded the amount of items viewed, the number of times any items were viewed, and the amount of time (in seconds) items were viewed. In addition to the primary measures of viewing time and number of items viewed, just prior to the profile viewing, participants were asked about their overall (self-reported) interest in the personality feedback. This self-report measure of interest provides insight into

participants' attitudes toward evaluative self-information if they chose to look at all items equally (i.e., if there is not enough variability in this novel measure) and provides a self-report/attitudinal complement to the behavioral profile viewing outcomes.

Finally, near the end of the experimental session (i.e., with some space between the personality profile viewing and answering this question), participants responded to the open-ended question “what aspects of your personality profile do you remember?” to assess any potential memory/recall biases in participants.

Hypothesis 2: Previous research has demonstrated that following an ego-threat, individuals avoid self-awareness (e.g., Twenge, Catanese, & Baumeister, 2003). Along these same lines, I hypothesized that participants in the failure condition of the mazes task would report less interest in the personality profile overall and behaviorally would exhibit less viewing of items in the personality profile. In addition, I speculated that participants in the failure condition who viewed some personality profile items may display memory/recall biases in the profile recall task at the end of the experiment, perhaps recalling more negative items (as further evidence of attention capture) or perhaps recalling more positive items (as a defensive, esteem-bolstering reaction). Furthermore, I hypothesized that individuals with fragile self-esteem and biased processing styles would exhibit these effects on self-information seeking and recall to a greater extent than those individuals with secure self-esteem and unbiased processing styles.

Other outcome measures: Self-esteem investment, and Defensive Attributions. To determine if these responses to ego threat of ruminative attention and strategic self-avoidance

impact more traditional defensive outcomes related to ego threat, participants rated their state self-esteem and self-esteem globalization, and their attributions for their performance regarding the mazes task. State self-esteem was assessed post-maze by asking participants to consider how they felt “right now” in response to the following three items: “I am a person of worth,” “I feel good about myself,” and “I have high self-esteem.” I also asked participants to rate “how your performance on the maze makes you feel about yourself?” Participants responded on a 1 (“Makes me feel much worse about myself”) to 5 (“Makes me feel much better about myself”) scale, with a midpoint 3 (“Does not affect my feelings about myself”).

Hypothesis 3: Kernis and colleagues (Kernis et al., 1997) proposed and found partial support for an “evaluative set” operational in individuals with one form of fragile self-esteem. This evaluative set is composed of (a) *orientation* toward evaluative information or events, (b) *bias* toward the interpretation of events as self-esteem relevant, and (c) *linking* momentary self-esteem to such self-esteem relevant events. The LDT facilitation effect proposed in hypothesis 1 addresses the “orientation” component of this model. In addition, I hypothesized that individuals in the failure condition would *link* momentary self-esteem to their performance, as evidenced by lower state self-esteem, and that this effect would be especially pronounced for individuals with fragile self-esteem or biased processing styles. Furthermore, I hypothesized that individuals with fragile self-esteem or biased processing styles in the failure condition would globalize their maze-task performance and interpret it as more self-esteem relevant than individuals with secure self-esteem or unbiased processing styles (*bias*).

Finally, I assessed several dimensions of participants' potentially self-serving attributions of their maze performance. Participants were asked how well they did on the maze (as a manipulation check), how important their performance was to them, and how diagnostic/accurate they felt their performance feedback was. Following Knee & Zuckerman (1996), I asked participants a series of questions regarding their performance on the mazes task, including how much they felt responsible for it, how much credit or blame they took for it, how much it reflected their success in life in general, and how much it was due to their own doing versus to factors unrelated to themselves. Finally, participants rated the extent to which four factors contributed to their maze-solving performance: level of ability, good or bad luck, ease or difficulty of the tasks, and effort exerted.

Hypothesis 4: Self-serving attributions serve to bolster self-worth following failure, insults, or rejection, particularly for individuals with high self-esteem (Baumeister, Heatherton, & Tice, 1993; Campbell & Sedikides, 1999). Thus, I hypothesized that participants in the failure condition of the mazes task would display typical self-serving biases for their performance, attributing their performance less to internal factors (e.g., their own ability) and more to external factors (e.g., task difficulty). In addition, I hypothesized that individuals with fragile self-esteem and biased processing styles would exhibit the self-serving bias to a greater extent than those individuals with secure self-esteem and unbiased processing styles.

CHAPTER 3

RESULTS

Overview

To examine these complex and multi-faceted data I took a multi-step, bottom-up approach. Any deviations from or additions to this overarching approach, as well as additional specific scoring information for dependent measures are detailed in the sections below as necessary. Generally, this strategy involved first examining each dependent measure component of the model proposed (attention, avoidance, self-esteem, attributions) separately in a series of hierarchical regressions. These regression models included participants' randomly assigned ego threat condition entered as a dummy-coded variable (0 = success, 1 = failure), and each of the participants' phase 1 (or phase 2) individual difference variable separately in step 1 of the model. Step 2 of each model included the interaction between the individual difference measure of interest and condition. All individual difference variables were grand-mean centered prior to the creation of interaction variables.

The outcome of these series of regression models is summarized in Tables 1 through 4. As can be seen, a clear pattern of significance did not emerge for any individual difference measure with the exception of contingency of self-esteem (CSES). Therefore, description of specific results below will focus on CSES as the primary moderator.

LDT (early attentional vigilance)

For each participant, the computer recorded both the response (i.e., word or nonword) and the latency for each presented word stimulus. Errors were infrequent (2.8% of trials) and individual incorrect responses were eliminated for response latency analyses. Mean number of incorrect responses for individuals was 3.13 out of 112 trials. Further, to reduce skewness, latencies three standard deviations above the sample mean were eliminated. This resulted in a loss of 1.9% of the remaining (correct only) trials.

The primary dependent measures of interest were mean response latencies to three of the five word stimulus categories: success, failure, and maze/task. Neutral word response latencies were used to control for within-person variations in response times, and were entered in step 1 of all response time regression models. Non-word latencies were not analyzed. As ego threats have been linked to performance decrements on certain kinds of tasks requiring cognitive control or control of attention (e.g., Baumeister et al., 2002; Baumeister et al., 2005), I also used both number and percent of incorrect responses as dependent measures to analyze potential effects of failure and personality on accuracy in the word/non-word task.

Hierarchical regression analyses with the LDT outcomes are summarized in Table 1. They revealed a main effect of CSES for reaction times to maze word stimuli such that individuals with relatively high CSES responded faster to these task-relevant words ($\beta = -.10, p < .05$). There was no main effect of condition and the interaction between CSES and condition was not significant. There were also were no significant effects for accuracy.

To examine biases in LDT recall, I first eliminated participants who failed to recall any LDT stimulus words ($n = 2$). Regression analyses revealed a main effect of CSES for task/maze

words ($\beta = .20, p < .05$), mirroring the main effect in LDT reaction times. However, the overall model was not significant ($F(2, 98) = 2.01, p < .14$).

Personality profile evaluation (strategic self avoidance)

As described above, for each participant, the computer recorded the time and sequence of personality profile items viewed. This allowed me to analyze a number of variables related to participants' viewing patterns including (1) number of negative items viewed, (2) number of positive items viewed, (3) time spent viewing positive items, and (4) time spent viewing negative items. In addition, I analyzed participants' self-reported interest in the personality profile prior to viewing. Finally, a trained coder analyzed the open-ended recall responses for positivity (Positive Recall) and negativity (Negative Recall) in items recalled.

Table 2 summarizes the regression analyses with these personality profile outcomes. With CSES as the primary moderator, hierarchical regression analyses revealed a marginal main effect of CSES on number of negative items viewed ($\beta = .18, p < .09$) such that individuals with relatively high CSES viewed more negative personality items than individuals with relatively low CSES. There were no effects of condition, and the interaction with CSES and condition was not significant. In addition, there was no effect on the viewing of positive items.

Examining self-reported profile interest, a significant CSES by condition interaction emerged for profile interest ($\beta = -.28, p < .05$). While the overall model was not significant ($F(3, 99) = 1.91, p < .14$), for exploratory purposes, I plotted the predicted values and tested the simple slopes of this two-way interaction. This post-hoc probing revealed that individuals high in CSES reported significantly greater interest in exploring their personality profile following success feedback ($M = 6.04$) compared to failure feedback ($M = 5.43; \beta = -.24, p < .09$); for individuals

low in CSES, there was not a significant difference in self-reported interest ($\beta = .22, p < .13$).

Figure 1 depicts this interaction.

Finally, to examine positivity or negativity biases in personality profile item recall, I first eliminated participants who failed to recall any profile items ($n = 5$). Regression analyses revealed no significant effects of CSES, condition, or their interaction.

Self-esteem Investment

As described earlier, two variables captured qualities of participants' online self-esteem investment in the evaluative task: state self-esteem (state SE), assessed just after the mazes task and (2) an explicit report of how their performance on the task affected their self-esteem (SE globalization), assessed near the end of the experimental session. Table 3 summarizes the results of the self-esteem investment regression analyses.

For state SE, regression analyses revealed a main effect of CSES ($\beta = -.30, p < .01$) such that individuals with relatively high CSES reported lower state SE, as well as a main effect of condition ($\beta = -.20, p < .05$) such that individuals who failed reported lower state SE. There was no interaction between CSES and condition.

For SE globalization, a significant main effect of condition ($\beta = -.67, p < .01$) was qualified by a significant interaction between CSES and condition ($\beta = -.33, p < .01$). Simple slopes analyses of this interaction revealed that slopes for both high CSES ($\beta = -.94, p < .01$) and low CSES ($\beta = -.39, p < .01$) were significant, such that individuals reported that the task made them feel better about themselves if they succeeded and worse about themselves if they failed; however, for individuals relatively high in CSES, this effect was exaggerated. Figure 2 represents this interaction.

Attributions/maze performance

First, I examined self-reported maze performance to check the manipulation of success and failure feedback from the mazes task. Only a main effect of condition emerged ($\beta = -.88, p < .01$) such that individuals in the failure condition reported significantly poorer performance than individuals in the success condition.

Table 4 summarizes regression analyses examining individuals' attributions about their maze performance. I tested maze importance and maze diagnosticity as separate outcomes. A main effect of CSES emerged for maze importance ($\beta = .24, p < .05$), such that relatively high CSES predicted greater reported maze performance importance. In contrast, a main effect of condition emerged ($\beta = -.21, p < .05$) such that individuals who succeeded rated their performance as more important than individuals who failed. There was no effect of CSES on diagnosticity.

To ease analysis and interpretation of the numerous self-serving attribution outcomes, I performed a principal components factor analysis with varimax rotation on the eight attribution relevant items. Inspection of eigenvalues and the scree plot supported the retention of three factors. Table 5 lists the results of this factor analysis. I retained three factors from this procedure: An "blame-stable" factor, which included three items related to one's role in one's performance in a stable or permanent sense ("I am responsible for this outcome"); a "blame-unstable" factor, which included three items related to one's role in one's performance in a less permanent sense ("I did not try hard enough"); and a "typicality" factor which included two items that deal with how this task represents either your typical success/luck or lack thereof

(“This is not like me”). Prior to creation of factors, each item was scored such that higher scores reflected greater internal attribution.

Regression analyses with these three factors (Maze Atts 1 - 3) as dependent measures revealed main effects of condition for all three maze attribution factor dependent measures, such that individuals who failed attributed their failure less to blame-stable factors ($\beta = -.33, p < .01$), less to blame-unstable factors ($\beta = -.37, p < .01$) and less to typicality factors ($\beta = -.22, p < .05$), revealing a pattern of responses indicative of the self-serving bias. In addition, there was a significant CSES by condition interaction for the blame-stable attribution factor ($\beta = .25, p < .05$). Simple slopes analyses and predicted values plots revealed that this tendency to attribute failure less to one's self and success more to one's self was pronounced among individuals with low CSES ($\beta = -.54, p < .01$) and was absent among individuals with high CSES ($\beta = -.13, p > .32$). Figure 3 displays this interaction.

Finally, I examined ratings of the research assistant (RA) who completed the experimental session with the participant for potential defensive and aggressive responses to the ego threat. There were no main effects of CSES or condition, and there was no interaction.

CHAPTER 4

DISCUSSION

This study investigated the early and basic cognitive processes following ego threats and how these cognitive responses may distinguish those individuals with fragile self-esteem and biased processing styles from those individuals with secure self-esteem and unbiased processing styles. Specifically, I adapted clinical models of attentional vigilance and avoidance of threat-relevant stimuli to attempt to identify and understand these ego-threat responses.

In terms of the primary model proposed of attentional vigilance and behavioral avoidance, involving the constellation of individual differences as predictors, overall only sporadic significant findings emerged on the dependent measures of interest (hypotheses 1 and 2). However, focusing on CSES as the chief moderator, an interesting pattern of results does emerge across the numerous dependent measures. Greater CSES is related to faster recognition of maze/task words, to marginally more negative personality profile items viewed, and to greater self-interest following success than failure (an exploratory finding). This pattern of results partially supports the proposed model of attention to stimuli relevant to self-esteem threat (faster RT to maze/task words), and strategic self avoidance (greater self-interest following success than failure).

In addition, these results do begin to answer questions about the nature of ego threats for individuals with highly contingent self-esteem. For example, the relationship between CSES and maze/task word facilitation indicates that highly contingent individuals were thinking about the

evaluative mazes task regardless of whether they did poorly or well (as there was no effect of condition or interaction with condition). This suggests that the evaluative task was perceived as especially esteem-relevant to individuals with relatively high CSES and thus prompted ruminative, attentional vigilance toward the task-relevant words. Furthermore, opposite to hypothesis 2, higher CSES scores predicted viewing more negative items on the personality profile, regardless of ego threat condition. If high CSES individuals did in fact perceive the mazes task as more esteem-relevant, as indicated by the LDT facilitation and the lower state SE finding, then seeking out more negative self-relevant information is a surprising finding. Rather than exhibiting a defensive, self-esteem bolstering response of viewing positive items, and rather than exhibiting the hypothesized avoidant behavior, these threatened individuals displayed a potentially maladaptive, perhaps even depressogenic behavior of viewing more negative aspects of themselves than their low CSES counterparts. Rather than an avoidance outcome at all, this outcome might best be interpreted as a behavioral manifestation of ruminative, evaluative attention.

The findings with CSES and self-esteem investment (hypothesis 3) point to an overall vulnerability of the feelings of self-worth of individuals high in self-esteem contingency compared to individuals low in contingency. For example, high CSES individuals displayed state SE decrements relative to their low CSES counterparts following the mazes task regardless of their actual performance, suggesting that the evaluation itself, simply putting their self-esteem on the line, was enough to momentarily lower their self-esteem. Also interestingly, and revealing an awareness of their own contingency, individuals high in contingency explicitly

linked their feelings of self-worth to their performance on the mazes task (SE globalization), albeit erroneously, given the state SE finding.

Furthermore, these findings speak to the “evaluative set” model proposed by Kernis and colleagues (e.g., Kernis et al., 1997). In fact, speaking to the total model, these data offer some support for the *bias* (SE globalization) and *linking* (state SE) components, as well as some support for the *orientation* toward evaluative information or events with the marginal effect of CSES for reaction times to maze/task words in the LDT. Aspects of this theoretical framework representing ego-involvement have been tested in previous research, but the current study extended this in two ways. First, previous research has focused on instability of SE as the marker of fragility, whereas I examined primarily CSES as the marker of fragility. Second, previous research has examined parts of the evaluative set separately in distinct studies. For example, unstable self-esteem was linked to *bias* in overgeneralizing the negative implications of failure (Kernis et al., 1998). The current study provides the first evidence of the operation of all aspects of the evaluative set in a single study.

Regarding the more traditional self-serving bias outcome measures (hypothesis 4), the main effect of condition on maze importance revealed the expected defensive reaction, a sort of “sour grapes.” Individuals who failed discounted the importance of their performance on the task (i.e., “Well, it didn't matter anyway”), whereas individuals who succeeded rated their task performance as more important. In addition, individuals high in contingency of self-esteem rated their performance on this task as more important across the board, regardless of whether they succeeded or failed (emerging as a main effect in the model predicting maze importance). While not revealing a defensive reaction per se, it may instead reveal a mechanism through which self-

esteem is contingent – importance of tasks to self and self-worth. This finding in concert with the self-esteem globalization finding, paint a picture of the ego-involved individual that we would expect from someone high in CSES: evaluative tasks are important to them, and they explicitly link their performance on such tasks to their self-esteem. Interestingly, as the state self-esteem finding reveals, such evaluative tasks may result in self-esteem decrements if one's self-esteem is highly contingent, regardless of one's actual performance. This miscalibration in self-esteem regulation may represent another pathway through which fragility in self-esteem is fostered; that is, self-esteem that does not respond appropriately to successes and failures. Future research should address these issues of basic processes that distinguish fragile and secure self-esteem.

Also interesting regarding the maze attributions outcomes was a counter theoretical finding that individuals *low* in CSES (i.e., a marker of SE security) exhibited typical self-serving bias effects, while individuals high in CSES did not differ in blame-stable attributions following success or failure. This finding opposes the theoretical underpinnings of fragile self-esteem, which would predict that contingent self-esteem would be bolstered by claiming responsibility for success and would be defended by denying responsibility for failure. Indeed, Heppner and Kernis (2009) found this exact outcome with regard to the self-serving bias following success and failure. Individuals high in contingency and global level of self-esteem exhibited typical self-serving bias effects, claiming less responsibility and taking less blame for failures and more for successes than individuals low in contingency and high in global level of self-esteem. Similarly, Carvalho, Plaut, and Cascio (2009) found that individuals high in contingent self-esteem and global level of self-esteem self-handicapped by not practicing for a potentially self-

esteem threatening task when compared to individuals low in contingent self-esteem and high global level of self-esteem exposed to the same self-threat.

Several factors offer potential explanations for this unexpected outcome. First, in the current investigation, I examined CSES only as a predictor, not including global level of self-esteem (RSE). Previous results demonstrating defensive bolstering outcomes are present for individuals high in contingency *and* high in global level of self-esteem (statistically, through their interaction), the true conceptualization of fragile and high self-esteem. Relatedly, CSES is negatively correlated with RSE, therefore examining outcomes for individuals high in CSES includes both individuals with generally positive feelings of self-worth (high RSE), who are likely to use defensive mechanisms to bolster their self-worth, as well as individuals with generally lukewarm/negative feelings of self-worth (low RSE), who are not likely to use defensive mechanisms to bolster their self-worth. In addition, a greater time delay exists between performance feedback and the attribution assessment in the current study compared to Heppner and Kernis (2009), so that perhaps a different self-esteem regulation process is operating, thus explaining the difference in outcome.

Limitations

The most important limitation to the study was sample size. The inclement weather that reduced the phase 3 sample size unfortunately reduced the statistical power needed to detect effects for the complex models I had hoped to test with the study. In the future, I would repeat this study, increasing the sample size to ensure adequate statistical power for these and other analyses.

In a similar vein, I would simplify the study and help to increase sample size by eliminating phase 2. This daily-diary style of assessing stability of self-esteem has been useful and informative in previous research (for a review, see Kernis, 2005); however the new 4-item measure, the ISES, offers promise for a single session assessment. Although surprisingly not correlated with each other ($r(81) = .06, p = ns$), the ISES shows the expected pattern of correlations with other markers of self-esteem fragility and measures of unbiased processing. ISES is positively correlated with CSES ($r(102) = .49, p < .01$), negatively correlated with RSE ($r(102) = -.52, p < .01$), and negatively correlated with both authenticity ($r(102) = -.42, p < .01$) and mindfulness ($r(102) = -.26, p < .01$), suggesting that it may provide an adequate measure of self-esteem instability without the practical constraints of the daily-diary style assessment.

Conclusion

The current study and findings primarily suggest that individuals with relatively high contingent self-esteem systematically differ in their (a) unconscious attention to evaluative task-relevant stimuli, (b) interest in evaluative information about the self following failure, (c) state self-esteem following an evaluative task, (d) linking self-esteem to performance on evaluative tasks, and (e) self-reported importance of evaluative tasks when compared to individuals with relatively low contingent self-esteem. The ubiquitous self-esteem decrement following an evaluative task and the greater importance ascribed to such an evaluative task both offer important avenues for future investigation into mechanisms through which fragile, rather than secure, self-esteem develops. All of these outcomes, with the exception of the counter-theoretical self-serving bias finding, encapsulate ego-involvement and paint the picture of an individual whose feelings of self-worth are tenuous and “on the line.”

In addition, despite the failure of particulars of the proposed model, there remains a great deal of merit in the general notion of adapting clinical models to understand fragile self-esteem processes. There was some support for early attentional vigilance and later strategic avoidance of threatening (self-evaluative) stimuli, similar to some clinical models of social phobia (Amir et al., 1998) and anxiety (Bradley et al., 1998). However, fragile self-esteem processes may involve other mechanisms than those proposed here; future work should explore other basic cognitive avenues through which individuals with fragile self-esteem develop and maintain fragile and tenuous rather than secure and well-anchored self-esteem.

Table 1.

Regression analyses for lexical decision task outcomes.

<i>Predictor</i>	<i>success RT</i>	<i>failure RT</i>	<i>task/maze RT</i>	<i># Incorrect</i>	<i>% Incorrect</i>
CSES	-.01	-0.07	-.10*	0.06	0.06
COND	-.03	0	-.03	-0.06	-0.06
CSES X COND	.07	-0.09	-.02	-0.12	-0.12
<i>Main effects model</i>	$F(3, 103) = 96.01^{***}$	$F(3, 103) = 109.91^{***}$	$F(3, 103) = 103.82^{***}$	$F(2, 104) = .35$	$F(2, 104) = .35$
<i>Interaction model</i>	$F(4, 102) = 72.46^{***}$	$F(4, 102) = 83.89^{***}$	$F(4, 102) = 77.21^{***}$	$F(3, 103) = .57$	$F(3, 103) = .57$
MAAS	-.06	-.03	-.01	-.04	-.04
COND	-.03	.00	-.04	-.07	-.07
MAAS x COND	-.18**	-.10	-.12a	-.17	-.17
<i>Main effects model</i>	$F(3, 98) = 91.87^{***}$	$F(3, 98) = 98.28^{***}$	$F(3, 98) = 94.17^{***}$	$F(2, 99) = .34$	$F(2, 99) = .34$
<i>Interaction model</i>	$F(4, 97) = 75.50^{***}$	$F(4, 97) = 75.29^{***}$	$F(4, 97) = 73.18^{***}$	$F(3, 98) = .80$	$F(3, 98) = .80$
RSE	-.03	.03	.11*	.01	.01
COND	-.03	-.01	-.04	-.05	-.05
RSE X COND	-.07	-.06	-.03	.28a	.28a
<i>Main effects model</i>	$F(3, 103) = 96.41^{***}$	$F(3, 103) = 107.55^{***}$	$F(3, 103) = 104.33^{***}$	$F(2, 104) = .15$	$F(2, 104) = .15$
<i>Interaction model</i>	$F(4, 102) = 72.38^{***}$	$F(4, 102) = 80.64^{***}$	$F(4, 102) = 77.62^{***}$	$F(3, 103) = 1.24$	$F(3, 103) = 1.24$
AUTH	-.02	-.03	.03	-.14	-.14
COND	-.03	.00	-.04	-.08	-.08
AUTH X COND	-.18*	-.07	-.08	.09	.09
<i>Main effects model</i>	$F(3, 98) = 90.56^{***}$	$F(3, 98) = 98.30^{***}$	$F(3, 98) = 94.51^{***}$	$F(2, 99) = 1.24$	$F(2, 99) = 1.24$
<i>Interaction model</i>	$F(4, 97) = 73.13^{***}$	$F(4, 97) = 74.04^{***}$	$F(4, 97) = 71.46^{***}$	$F(3, 98) = .95$	$F(3, 98) = .95$

<i>Predictor</i>	<i>success RT</i>	<i>failure RT</i>	<i>task/maze RT</i>	<i># Incorrect</i>	<i>% Incorrect</i>
ISES	.00	-.06	-.12*	-.10	-.10
COND	-.03	-.05	-.05	-.07	-.07
ISES X COND	.10	.02	-.11	.08	.08
<i>Main effects model</i>	$F(3, 98) = 90.39***$	$F(3, 98) = 99.84***$	$F(3, 98) = 100.77***$	$F(2, 99) = .73$	$F(2, 99) = .73$
<i>Interaction model</i>	$F(4, 97) = 67.75***$	$F(4, 97) = 74.17***$	$F(4, 97) = 74.82***$	$F(3, 98) = .58$	$F(3, 98) = .58$
CSW	-.11*	-.10a	-.04	.20*	.20*
COND	-.02	.00	-.04	-.08	-.08
CSW X COND	.03	-.06	.07	-.02	-.02
<i>Main effects model</i>	$F(3, 98) = 95.75***$	$F(3, 98) = 102.67***$	$F(3, 98) = 94.81***$	$F(2, 99) = 2.29$	$F(2, 99) = 2.29$
<i>Interaction model</i>	$F(4, 97) = 71.29***$	$F(4, 97) = 77.09***$	$F(4, 97) = 71.33***$	$F(3, 98) = 1.52$	$F(3, 98) = 1.52$
NAMELIKE	-.02	.06	.07	.01	.01
COND	-.03	.00	-.04	-.07	-.07
NAMELIKE X COND	-.05	-.09	-.05	-.16	-.16
<i>Main effects model</i>	$F(3, 98) = 90.49***$	$F(3, 98) = 99.92***$	$F(3, 98) = 96.78***$	$F(2, 99) = .24$	$F(2, 99) = .24$
<i>Interaction model</i>	$F(4, 97) = 67.60***$	$F(4, 97) = 75.56***$	$F(4, 97) = 72.30***$	$F(3, 98) = .53$	$F(3, 98) = .53$
FFMQ	-.01	.05	.03	-.06	-.06
COND	-.03	-.01	-.04	-.06	-.06
FFMQ X COND	-.08	-.01	-.03	.00	.00
<i>Main effects model</i>	$F(3, 98) = 90.40***$	$F(3, 98) = 89.81***$	$F(3, 98) = 94.54***$	$F(2, 99) = .41$	$F(2, 99) = .41$
<i>Interaction model</i>	$F(4, 97) = 68.38***$	$F(4, 97) = 73.38***$	$F(4, 97) = 70.39***$	$F(3, 98) = .27$	$F(3, 98) = .27$

<i>Predictor</i>	<i>success RT</i>	<i>failure RT</i>	<i>task/maze RT</i>	<i># Incorrect</i>	<i>% Incorrect</i>
NLT	-.01	.04	.02	-.08	-.08
COND	-.03	-.01	-.04	-.06	-.06
NLT X COND	-.12a	-.08	-.11a	.00	.00
<i>Main effects model</i>	$F(3, 98) = 90.42^{***}$	$F(3, 98) = 98.45^{***}$	$F(3, 98) = 94.32^{***}$	$F(2, 99) = .58$	$F(2, 99) = .58$
<i>Interaction model</i>	$F(4, 97) = 70.26^{***}$	$F(4, 97) = 74.80^{***}$	$F(4, 97) = 73.01^{***}$	$F(3, 98) = .39$	$F(3, 98) = .39$
STAB	.10a	.09	.08	.03	.03
COND	-.02	.00	0.04	-.07	-.07
STAB X COND	.05	.06	.11	-.15	-.15
<i>Main effects model</i>	$F(3, 78) = 75.66^{***}$	$F(3, 78) = 81.03^{***}$	$F(3, 78) = 77.42^{***}$	$F(2, 79) = .23$	$F(2, 79) = .23$
<i>Interaction model</i>	$F(4, 77) = 56.55^{***}$	$F(4, 77) = 60.96^{***}$	$F(4, 77) = 60.06^{***}$	$F(3, 78) = .61$	$F(3, 78) = .61$
SCOMP	-.08	.03	.01	-.06	-.06
COND	.04	.00	-.04	-.08	-.08
SCOMP X COND	-.11	.03	-.05	.22	.22
<i>Main effects model</i>	$F(3, 98) = 93.08^{***}$	$F(3, 98) = 98.22^{***}$	$F(3, 98) = 94.15^{***}$	$F(2, 99) = .40$	$F(2, 99) = .40$
<i>Interaction model</i>	$F(4, 97) = 71.35^{***}$	$F(4, 97) = 73.07^{***}$	$F(4, 97) = 70.36^{***}$	$F(3, 98) = 1.04$	$F(3, 98) = 1.04$
NPI	-.04	-.04	.03	.02	.02
COND	-.03	.00	-.04	-.07	-.07
NPI X COND	-.11	-.04	-.03	-.08	-.08
<i>Main effects model</i>	$F(3, 96) = 89.25^{***}$	$F(3, 96) = 96.82^{***}$	$F(3, 96) = 92.58^{***}$	$F(2, 97) = .25$	$F(2, 97) = .25$
<i>Interaction model</i>	$F(4, 95) = 68.50^{***}$	$F(4, 95) = 72.15^{***}$	$F(4, 95) = 68.85^{***}$	$F(3, 96) = .26$	$F(3, 96) = .26$

<i>Predictor</i>	<i>LDT Recall Success</i>	<i>LDT Recall Fail</i>	<i>LDT Recall Maze</i>
CSES	-.16	-.10	.20*
COND	.08	.13	.01
CSES X COND	-.17	-.23a	-.13
<i>Main effects model</i>	$F(2, 98) = 1.36$	$F(2, 98) = 1.22$	$F(2, 98) = 2.01$
<i>Interaction model</i>	$F(3, 97) = 1.50$	$F(3, 97) = 1.94$	$F(3, 97) = 1.66$
MAAS	.13	.08	-.21*
COND	.06	.12	.04
MAAS x COND	.14	.06	.13
<i>Main effects model</i>	$F(2, 98) = 1.05$	$F(2, 98) = .96$	$F(2, 98) = 2.37a$
<i>Interaction model</i>	$F(3, 97) = 1.12$	$F(3, 97) = .72$	$F(3, 97) = 1.93$
RSE	.09	.11	-.02
COND	.06	.13	.04
RSE X COND	.13	-.07	.30a
<i>Main effects model</i>	$F(2, 98) = .53$	$F(2, 98) = .27$	$F(2, 98) = .09$
<i>Interaction model</i>	$F(3, 97) = .56$	$F(3, 97) = .42$	$F(3, 97) = 1.25$
AUTH	.11	.04	-.10
COND	.06	.12	.03
AUTH X COND	.01	.05	.44***
<i>Main effects model</i>	$F(2, 98) = .79$	$F(2, 98) = .77$	$F(2, 98) = .60$
<i>Interaction model</i>	$F(3, 97) = .52$	$F(3, 97) = .55$	$F(3, 97) = 4.03*$

<i>Predictor</i>	<i>LDT Recall Success</i>	<i>LDT Recall Fail</i>	<i>LDT Recall Maze</i>
ISES	-.01	.06	.04
COND	.06	.12	.04
ISES X COND	-.16	-.03	-.16
<i>Main effects model</i>	$F(2, 98) = .16$	$F(2, 98) = .85$	$F(2, 98) = .16$
<i>Interaction model</i>	$F(3, 97) = .48$	$F(3, 97) = .57$	$F(3, 97) = .49$
CSW	-.09	-.09	.03
COND	.06	.12	-.10
CSW X COND	.10	-.15	-.28*
<i>Main effects model</i>	$F(2, 98) = .51$	$F(2, 98) = 1.07$	$F(2, 98) = .49$
<i>Interaction model</i>	$F(3, 97) = .54$	$F(3, 97) = 1.15$	$F(3, 97) = 1.79$
NAMELIKE	.03	.10	-.07
COND	.06	.13	.03
NAMELIKE X COND	.22	-.03	-.14
<i>Main effects model</i>	$F(2, 98) = .21$	$F(2, 98) = 1.17$	$F(2, 98) = .28$
<i>Interaction model</i>	$F(2, 97) = .88$	$F(3, 97) = .79$	$F(3, 97) = .47$
FFMQ	.15	-.01	-.15
COND	.04	.12	.05
FFMQ X COND	-.03	.00	.19
<i>Main effects model</i>	$F(2, 98) = 1.35$	$F(2, 98) = .68$	$F(2, 98) = 1.17$
<i>Interaction model</i>	$F(3, 97) = .91$	$F(3, 97) = .45$	$F(3, 97) = 1.56$

<i>Predictor</i>	<i>LDT Recall Success</i>	<i>LDT Recall Fail</i>	<i>LDT Recall Maze</i>
NLT	.12	.15	-.13
COND	.05	.11	.05
NLT X COND	.03	.01	-.16
<i>Main effects model</i>	$F(2, 98) = .84$	$F(2, 98) = 1.83$	$F(2, 98) = .85$
<i>Interaction model</i>	$F(3, 97) = .57$	$F(3, 97) = 1.21$	$F(3, 97) = 1.13$
STAB	.12	-.08	.20a
COND	.07	.11	.05
STAB X COND	-.16	.00	.17
<i>Main effects model</i>	$F(2, 78) = .70$	$F(2, 78) = .79$	$F(2, 78) = 1.71$
<i>Interaction model</i>	$F(3, 77) = 1.01$	$F(3, 77) = .52$	$F(3, 77) = 1.77$
SCOMP	.04	.07	-.14
COND	.06	.13	.02
SCOMP X COND	.02	.19	.09
<i>Main effects model</i>	$F(2, 98) = .22$	$F(2, 98) = .91$	$F(2, 98) = 1.00$
<i>Interaction model</i>	$F(3, 97) = .15$	$F(3, 97) = 1.17$	$F(3, 97) = .78$
NPI	.15	-.08	-.04
COND	.05	.12	.04
NPI X COND	.32*	.03	.06
<i>Main effects model</i>	$F(2, 96) = 1.2$	$F(2, 96) = 1.01$	$F(2, 96) = .15$
<i>Interaction model</i>	$F(3, 95) = 2.57a$	$F(3, 95) = .68$	$F(3, 95) = .15$

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; a = $p < .10$

Table 2.

Regression analyses for personality profile outcomes.

<i>Predictor</i>	<i>Number Negative Items</i>	<i>Number Positive Items</i>	<i>View time Negative Items</i>	<i>View time Positive Items</i>
CSES	.18a	.05	-.01	-.08
COND	-.17	-.10	.16	.11
CSES X COND	-.11	-.14	-.09	.13
<i>Main effects model</i>	$F(2, 91) = 2.43a$	$F(2, 94) = .52$	$F(2, 91) = 1.18$	$F(2, 94) = .77$
<i>Interaction model</i>	$F(3, 90) = 1.86$	$F(3, 93) = .72$	$F(3, 90) = .94$	$F(3, 93) = .85$
MAAS	-.14	-.04	-.15	-.08
COND	-.14	-.09	.16	.10
MAAS X COND	.16	.24a	.03	-.09
<i>Main effects model</i>	$F(2, 91) = 1.82$	$F(2, 94) = .46$	$F(2, 91) = 2.26$	$F(2, 94) = .77$
<i>Interaction model</i>	$F(2, 91) = 1.69$	$F(3, 93) = 1.40$	$F(3, 90) = 1.50$	$F(3, 93) = .67$
RSE	-.10	-.03	.00	.02
COND	-.15	-.09	.16	.10
RSE X COND	.33*	.19	.09	0.10
<i>Main effects model</i>	$F(2, 91) = 1.37$	$F(2, 94) = .44$	$F(2, 91) = 1.18$	$F(2, 94) = .48$
<i>Interaction model</i>	$F(3, 90) = 2.33a$	$F(3, 93) = .76$	$F(3, 90) = .89$	$F(3, 93) = .44$
AUTH	-.14	-.02	.02	.01
COND	-.15	-.09	.16	.10
AUTH X COND	.35*	.38**	.06	-.23
<i>Main effects model</i>	$F(2, 91) = 1.94$	$F(2, 94) = .42$	$F(2, 91) = 1.19$	$F(2, 94) = .47$
<i>Interaction model</i>	$F(3, 90) = 3.48*$	$F(3, 93) = 2.72*$	$F(3, 90) = .84$	$F(3, 93) = 1.17$

<i>Predictor</i>	<i>Number Negative Items</i>	<i>Number Positive Items</i>	<i>View time Negative Items</i>	<i>View time Positive Items</i>
ISES	.11	.03	.15	.06
COND	-.14	-.09	.17	.10
ISES X COND	-.32*	-.28a	.11	.28a
<i>Main effects model</i>	$F(2, 91) = 1.50$	$F(2, 94) = .44$	$F(2, 91) = 2.20$	$F(2, 94) = .64$
<i>Interaction model</i>	$F(3, 90) = 2.60a$	$F(3, 93) = 1.52$	$F(3, 90) = 1.64$	$F(3, 93) = 1.63$
CSW	.29**	.19a	-.03	-.24*
COND	-.16	-.10	.16	.11
CSW X COND	-.23a	-.12	.06	.21
<i>Main effects model</i>	$F(2, 91) = 5.11**$	$F(2, 94) = 2.16$	$F(2, 91) = 1.23$	$F(2, 94) = 3.30*$
<i>Interaction model</i>	$F(3, 90) = 4.50**$	$F(3, 93) = 1.68$	$F(3, 90) = .88$	$F(3, 93) = 3.10*$
NAMELIKE	.10	.17a	.16	.04
COND	-.13	-.08	.16	.10
NAMELIKE X COND	.33*	.38*	-.09	-.20
<i>Main effects model</i>	$F(2, 91) = 1.41$	$F(2, 94) = 1.87$	$F(2, 91) = 1.33$	$F(2, 94) = .53$
<i>Interaction model</i>	$F(3, 90) = 2.55a$	$F(3, 93) = 3.52*$	$F(3, 90) = .99$	$F(3, 93) = .91$
FFMQ	-.28**	-.25*	-.02	.16
COND	-.11	-.07	.16	.08
FFMQ X COND	.15	.12	-.01	-.08
<i>Main effects model</i>	$F(2, 91) = 4.95**$	$F(2, 94) = 3.63*$	$F(2, 91) = 1.20$	$F(2, 94) = 1.74$
<i>Interaction model</i>	$F(3, 90) = 3.80*$	$F(3, 93) = 2.71*$	$F(3, 90) = .79$	$F(3, 93) = 1.29$

<i>Predictor</i>	<i>Number Negative Items</i>	<i>Number Positive Items</i>	<i>View time Negative Items</i>	<i>View time Positive Items</i>
NLT	.11	.07	-.01	.03
COND	-.15	-.10	.16	.10
NLT X COND	.09	-.02	.21	.28*
<i>Main effects model</i>	$F(2, 91) = 1.46$	$F(2, 94) = .65$	$F(2, 91) = 1.18$	$F(2, 94) = .50$
<i>Interaction model</i>	$F(3, 90) = 1.11$	$F(3, 93) = .44$	$F(3, 90) = 1.69$	$F(3, 93) = 1.95$
STAB	-.05	-.44***	-.11	-.34**
COND	-.15	-.12	.15	.07
STAB X COND	-.24a	-.04	-.03	.21a
<i>Main effects model</i>	$F(2, 72) = .82$	$F(2, 73) = 9.16***$	$F(2, 72) = 1.41$	$F(2, 73) = 5.34**$
<i>Interaction model</i>	$F(3, 71) = 1.76$	$F(3, 72) = 6.07***$	$F(3, 71) = .94$	$F(3, 72) = 4.64**$
SCOMP	-.03	-.05	.03	.12
COND	-.15	-.10	.16	.11
SCOMP X COND	.26a	.17	.03	-.12
<i>Main effects model</i>	$F(2, 91) = .97$	$F(2, 94) = .52$	$F(2, 91) = 1.22$	$F(2, 94) = 1.18$
<i>Interaction model</i>	$F(3, 90) = 1.64$	$F(3, 93) = .81$	$F(3, 90) = .82$	$F(3, 93) = .99$
NPI	.01	-.02	-.01	.00
COND	-.14	-.09	.16	.10
NPI X COND	.11	.04	-.02	.11
<i>Main effects model</i>	$F(2, 90) = .93$	$F(2, 93) = .40$	$F(2, 90) = 1.17$	$F(2, 93) = .46$
<i>Interaction model</i>	$F(3, 89) = .81$	$F(3, 92) = .29$	$F(3, 89) = .78$	$F(3, 92) = .48$

<i>Predictor</i>	<i>Profile Interest</i>	<i>Positive Recall</i>	<i>Negative Recall</i>
CSES	.08	.07	.14
COND	-.02	.03	-.08
CSES X COND	-.28*	-.04	-.16
<i>Main effects model</i>	$F(2, 100) = .31$	$F(2, 90) = .30$	$F(2, 90) = 1.04$
<i>Interaction model</i>	$F(3, 99) = 1.91$	$F(3, 89) = .23$	$F(3, 89) = 1.16$
MAAS	-.18a	-.16	-.20a
COND	.00	.04	-.06
MAAS X COND	.09	-.06	.10
<i>Main effects model</i>	$F(2, 100) = 1.61$	$F(2, 91) = 1.25$	$F(2, 91) = 1.99$
<i>Interaction model</i>	$F(3, 99) = 1.22$	$F(3, 90) = .89$	$F(3, 90) = 1.51$
RSE	.03	-.03	-.15
COND	.00	.03	-.07
RSE X COND	.35*	.03	.28a
<i>Main effects model</i>	$F(2, 102) = .06$	$F(2, 91) = .10$	$F(2, 91) = 1.19$
<i>Interaction model</i>	$F(3, 99) = 1.78$	$F(3, 90) = .07$	$F(3, 90) = 1.92$
AUTH	-.02	-.09	-.11
COND	.00	.03	.07
AUTH X COND	.16	.12	.18
<i>Main effects model</i>	$F(2, 100) = .01$	$F(2, 91) = .41$	$F(2, 91) = .78$
<i>Interaction model</i>	$F(3, 99) = .46$	$F(3, 90) = .52$	$F(3, 90) = 1.05$

<i>Predictor</i>	<i>Profile Interest</i>	<i>Positive Recall</i>	<i>Negative Recall</i>
ISES	.13	-.03	-.03
COND	.00	.03	-.06
ISES X COND	-.10	-.15	-.26a
<i>Main effects model</i>	$F(2, 100) = .80$	$F(2, 91) = .08$	$F(2, 91) = .19$
<i>Interaction model</i>	$F(3, 99) = .68$	$F(3, 90) = .37$	$F(3, 90) = 1.16$
CSW	.11	.14	.17
COND	-.01	.03	-.06
CSW X COND	-.10	-.13	-.19
<i>Main effects model</i>	$F(2, 100) = .57$	$F(2, 91) = 1.01$	$F(2, 91) = 1.54$
<i>Interaction model</i>	$F(3, 99) = .55$	$F(2, 90) = .99$	$F(3, 90) = 1.72$
NAMELIKE	.07	.00	-.01
COND	.00	.03	-.06
NAMELIKE X COND	.00	.20	.00
<i>Main effects model</i>	$F(2, 100) = .22$	$F(2, 91) = .06$	$F(2, 91) = .17$
<i>Interaction model</i>	$F(3, 99) = .15$	$F(3, 90) = .61$	$F(3, 90) = .11$
FFMQ	-.16	-.06	-.10
COND	.01	.04	-.05
FFMQ X COND	-.08	.09	.24a
<i>Main effects model</i>	$F(2, 100) = 1.28$	$F(2, 91) = .20$	$F(2, 91) = .66$
<i>Interaction model</i>	$F(3, 99) = .98$	$F(3, 90) = .28$	$F(3, 90) = 1.69$

<i>Predictor</i>	<i>Profile Interest</i>	<i>Positive Recall</i>	<i>Negative Recall</i>
NLT	-.20	-.10	-.07
COND	-.01	.04	-.05
NLT X COND	-.03	-.18	-.13
<i>Main effects model</i>	$F(2, 100) = .02$	$F(2, 91) = .54$	$F(2, 91) = .39$
<i>Interaction model</i>	$F(3, 99) = .04$	$F(3, 90) = .98$	$F(3, 90) = .56$
STAB	-.04	-.10	-.02
COND	-.01	.03	-.06
STAB X COND	-.01	.02	-.05
<i>Main effects model</i>	$F(2, 79) = .06$	$F(2, 70) = .43$	$F(2, 70) = .14$
<i>Interaction model</i>	$F(3, 78) = .04$	$F(3, 69) = .29$	$F(3, 69) = .13$
SCOMP	.02	-.13	-.05
COND	.00	.02	-.06
SCOMP X COND	.34*	.06	.08
<i>Main effects model</i>	$F(2, 100) = .02$	$F(2, 91) = .88$	$F(2, 91) = .30$
<i>Interaction model</i>	$F(3, 99) = 1.89$	$F(3, 90) = .64$	$F(3, 90) = .30$
NPI	.04	.07	.00
COND	-.01	.03	-.06
NPI X COND	-.07	.07	-.01
<i>Main effects model</i>	$F(2, 98) = .06$	$F(2, 90) = .26$	$F(2, 90) = .16$
<i>Interaction model</i>	$F(3, 97) = .12$	$F(3, 89) = .24$	$F(3, 89) = .11$

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; a = $p < .10$

Table 3.

Regression analyses for self-esteem investment outcomes.

<i>Predictor</i>	<i>State SE</i>	<i>SE globalization</i>
CSES	-.30**	.05
COND	-.20*	-.67***
CSES X COND	-.03	-.33**
<i>Main effects model</i>	$F(2, 100) = 8.86***$	$F(2, 100) = 40.26***$
<i>Interaction model</i>	$F(3, 99) = 5.87***$	$F(3, 99) = 34.97***$
MAAS	.14	.00
COND	-.25*	-.67***
MAAS X COND	-.05	.04
<i>Main effects model</i>	$F(2, 100) = 4.50*$	$F(2, 100) = 39.89***$
<i>Interaction model</i>	$F(3, 99) = 3.03*$	$F(3, 99) = 26.45***$
RSE	.52***	-.03
COND	-.21*	-.67***
RSE X COND	-.02	.19
<i>Main effects model</i>	$F(2, 100) = 24.98***$	$F(2, 100) = 40.04***$
<i>Interaction model</i>	$F(3, 99) = 16.49***$	$F(3, 99) = 28.05***$
AUTH	.46***	-.01
COND	-.22*	-.67***
AUTH X COND	.19	-.02
<i>Main effects model</i>	$F(2, 100) = 18.49***$	$F(2, 100) = 39.89***$
<i>Interaction model</i>	$F(3, 99) = 13.33***$	$F(3, 99) = 26.35***$

<i>Predictor</i>	<i>State SE</i>	<i>SE globalization</i>
ISES	-.19*	.00
COND	-.26**	-.67***
ISES X COND	.07	-.36***
<i>Main effects model</i>	$F(2, 100) = 5.36^{**}$	$F(2, 100) = 39.89^{***}$
<i>Interaction model</i>	$F(3, 99) = 3.63^*$	$F(3, 99) = 33.75^{***}$
CSW	.09	-.07
COND	-.25**	-.66***
CSW X COND	.24a	-.11
<i>Main effects model</i>	$F(2, 100) = 3.74^*$	$F(2, 100) = 40.57^{***}$
<i>Interaction model</i>	$F(3, 99) = 3.71^*$	$F(3, 99) = 27.47^{***}$
NAMELIKE	.19a	.06
COND	-.23*	-.66***
NAMELIKE X COND	-.12	-.16
<i>Main effects model</i>	$F(2, 100) = 5.36^{**}$	$F(2, 100) = 40.40^{***}$
<i>Interaction model</i>	$F(3, 99) = 3.79^*$	$F(3, 99) = 27.88^{***}$
FFMQ	.23*	-.01
COND	-.27**	-.67***
FFMQ X COND	.01	.10
<i>Main effects model</i>	$F(2, 100) = 6.42^{**}$	$F(2, 100) = 39.89^{***}$
<i>Interaction model</i>	$F(3, 99) = 4.24^{**}$	$F(3, 99) = 27.03^{***}$

<i>Predictor</i>	<i>State SE</i>	<i>SE globalization</i>
NLT	.21*	-.09
COND	-.27**	-.66***
NLT X COND	.01	0.07
<i>Main effects model</i>	$F(2, 100) = 5.90^{**}$	$F(2, 100) = 41.17^{***}$
<i>Interaction model</i>	$F(3, 99) = 3.90^*$	$F(3, 99) = 27.46^{***}$
STAB	-.18a	-.02
COND	-.26*	-.67***
STAB X COND	-.17	-.02
<i>Main effects model</i>	$F(2, 79) = 4.13^*$	$F(2, 79) = 31.58^{***}$
<i>Interaction model</i>	$F(3, 78) = 3.54^*$	$F(3, 78) = 20.81^{***}$
SCOMP	.39***	.11
COND	-.21*	-.66***
SCOMP X COND	.20	.39***
<i>Main effects model</i>	$F(2, 100) = 13.69^{***}$	$F(2, 100) = 41.82^{***}$
<i>Interaction model</i>	$F(3, 99) = 10.09^{***}$	$F(3, 99) = 37.01^{***}$
NPI	0.14	-.10
COND	-.26**	-.66***
NPI X COND	-.05	.07
<i>Main effects model</i>	$F(2, 98) = 4.40^*$	$F(2, 98) = 40.62^{***}$
<i>Interaction model</i>	$F(3, 97) = 2.96^*$	$F(3, 97) = 27.08^{***}$

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; a = $p < .10$

Table 4.

Regression analyses for maze attributions outcomes.

<i>Predictor</i>	<i>Maze importance</i>	<i>Maze Diagnosticity</i>	<i>Maze Atts 1</i>	<i>Maze Atts 2</i>
CSES	.24*	.08	.09	0.02
COND	-.21*	-.66***	-.33**	-.37***
CSES X COND	.03	.06	.25*	.02
<i>Main effects model</i>	$F(2, 99) = 4.73^*$	$F(2, 100) = 37.55^{***}$	$F(2, 100) = 5.89^{**}$	$F(2, 100) = 7.80^{***}$
<i>Interaction model</i>	$F(3, 98) = 3.15^*$	$F(3, 99) = 25.01^{***}$	$F(3, 99) = 5.50^{**}$	$F(3, 99) = 5.16^{**}$
MAAS	-.01	.04	.05	-.18*
COND	-.18a	-.65***	-.31***	-.37***
MAAS X COND	.10	.10	-.02	-.08
<i>Main effects model</i>	$F(2, 99) = 1.59$	$F(2, 100) = 36.95^{***}$	$F(2, 102) = 5.57^{**}$	$F(2, 100) = 10.02^{***}$
<i>Interaction model</i>	$F(3, 98) = 1.27$	$F(3, 99) = 24.99^{***}$	$F(3, 99) = 3.69^*$	$F(3, 99) = 6.78^{***}$
RSE	.01	.05	-.04	.09
COND	-.18a	-.65***	-.32***	-.36***
RSE X COND	.13	-.02	-.10	.15
<i>Main effects model</i>	$F(2, 99) = 1.59$	$F(2, 100) = 37.05^{***}$	$F(2, 100) = 5.53^{**}$	$F(2, 100) = 8.37^{***}$
<i>Interaction model</i>	$F(3, 98) = 1.30$	$F(3, 99) = 24.47^{***}$	$F(3, 99) = 3.82^*$	$F(3, 99) = 5.91^{***}$
AUTH	.11	.13a	.08	.12
COND	-.17a	-.64***	-.31**	-.36***
AUTH X COND	.08	.02	.02	.21a
<i>Main effects model</i>	$F(2, 99) = 2.28$	$F(2, 100) = 39.35^{***}$	$F(2, 100) = 5.79^{**}$	$F(2, 100) = 8.70^{***}$
<i>Interaction model</i>	$F(3, 98) = 1.63$	$F(3, 99) = 25.99^{***}$	$F(3, 99) = 3.83^*$	$F(3, 99) = 6.83^{***}$

<i>Predictor</i>	<i>Maze importance</i>	<i>Maze Diagnosticity</i>	<i>Maze Atts 1</i>	<i>Maze Atts 2</i>
ISES	.01	-.02	.17a	.06
COND	-.18a	-.65***	-.31**	-.36***
ISES X COND	.06	.02	.13	-.07
<i>Main effects model</i>	$F(2, 99) = 1.60$	$F(2, 100) = 36.76***$	$F(2, 100) = 7.25***$	$F(2, 100) = 8.02***$
<i>Interaction model</i>	$F(3, 98) = 1.11$	$F(3, 99) = 24.28***$	$F(3, 99) = 5.14**$	$F(3, 99) = 5.38**$
CSW	.31**	.10	.04	.14
COND	-.19*	-.66***	-.32***	-.37***
CSW X COND	.18	.04	.25*	.18
<i>Main effects model</i>	$F(2, 99) = 7.02***$	$F(2, 100) = 38.20***$	$F(2, 100) = 5.56**$	$F(2, 100) = 9.14***$
<i>Interaction model</i>	$F(3, 98) = 5.39**$	$F(3, 99) = 25.30***$	$F(3, 99) = 5.12**$	$F(3, 99) = 6.88***$
NAMELIKE	.08	.07	.05	.01
COND	-.17a	-.64***	-.31**	-.37
NAMELIKE X COND	.07	-.07	-.20	.13
<i>Main effects model</i>	$F(2, 99) = 1.88$	$F(2, 100) = 37.49***$	$F(2, 100) = 5.61**$	$F(2, 100) = 7.79***$
<i>Interaction model</i>	$F(3, 98) = 1.31$	$F(3, 99) = 24.96***$	$F(3, 99) = 4.43**$	$F(3, 99) = 5.46**$
FFMQ	-.03	.06	-.10	.00
COND	-.17a	-.66***	-.36***	-.31***
FFMQ X COND	-.23a	-.16a	-.15	-.23a
<i>Main effects model</i>	$F(2, 99) = 1.64$	$F(2, 100) = 37.15***$	$F(2, 100) = 8.39***$	$F(2, 100) = 5.44**$
<i>Interaction model</i>	$F(3, 98) = 2.32a$	$F(3, 99) = 26.21***$	$F(3, 99) = 6.18***$	$F(3, 99) = 4.97**$

<i>Predictor</i>	<i>Maze importance</i>	<i>Maze Diagnosticity</i>	<i>Maze Atts 1</i>	<i>Maze Atts 2</i>
NLT	-.08	.08	.10	.06
COND	-.17a	-.66***	-.32***	-.37***
NLT X COND	.07	-.09	-.10	-.03
<i>Main effects model</i>	$F(2, 99) = 1.88$	$F(2, 100) = 37.57***$	$F(2, 100) = 6.02**$	$F(2, 100) = 8.01***$
<i>Interaction model</i>	$F(3, 98) = 1.36$	$F(3, 99) = 25.36***$	$F(3, 99) = 4.22**$	$F(3, 99) = 5.32**$
STAB	-.01	.03	.06	-.07
COND	-.18	-.65***	-.31**	-.37***
STAB X COND	-.08	.08	-.02	-.05
<i>Main effects model</i>	$F(2, 79) = 1.26$	$F(2, 79) = 29.09***$	$F(2, 79) = 4.49*$	$F(2, 79) = 6.36**$
<i>Interaction model</i>	$F(3, 77) = .95$	$F(3, 78) = 19.51***$	$F(3, 78) = 2.97*$	$F(3, 78) = 4.27**$
SCOMP	-.06	.17*	-.04	.05
COND	-.18a	-.63***	-.32***	-.36***
SCOMP X COND	-.08	.09	-.15	-.03
<i>Main effects model</i>	$F(2, 99) = 1.78$	$F(2, 100) = 41.41***$	$F(2, 100) = 5.57**$	$F(2, 100) = 7.95***$
<i>Interaction model</i>	$F(3, 98) = 1.28$	$F(3, 99) = 27.73***$	$F(3, 99) = 4.13**$	$F(3, 99) = 5.27**$
NPI	.01	0.03	0.06	.07
COND	-.18a	-0.65***	-.32***	-.37***
NPI X COND	-.09	-.17	-0.13	-.02
<i>Main effects model</i>	$F(2, 97) = 1.57$	$F(2, 98) = 36.11***$	$F(2, 98) = 5.52**$	$F(2, 98) = 7.96***$
<i>Interaction model</i>	$F(3, 96) = 1.18$	$F(3, 97) = 25.21***$	$F(3, 97) = 3.99**$	$F(3, 97) = 5.26**$

<i>Predictor</i>	<i>Maze Atts 3</i>	<i>RA Rate</i>
CSES	.09	.03
COND	-.22*	-.05
CSES X COND	-.06	.06
<i>Main effects model</i>	$F(2, 100) = 2.69a$	$F(2, 100) = .14$
<i>Interaction model</i>	$F(3, 99) = 1.87$	$F(3, 99) = .18$
MAAS	.05	-.09
COND	-.21*	-.05
MAAS X COND	.04	-.05
<i>Main effects model</i>	$F(2, 100) = 2.36a$	$F(2, 100) = .50$
<i>Interaction model</i>	$F(3, 99) = 1.60$	$F(3, 99) = .38$
RSE	-.05	.10
COND	-.21*	-.04
RSE X COND	.00	.03
<i>Main effects model</i>	$F(2, 100) = 2.37a$	$F(2, 100) = .62$
<i>Interaction model</i>	$F(3, 99) = 1.57$	$F(3, 99) = .42$
AUTH	.09	.05
COND	-.20*	-.04
AUTH X COND	-.16	-.07
<i>Main effects model</i>	$F(2, 100) = 2.72a$	$F(2, 100) = .25$
<i>Interaction model</i>	$F(3, 99) = 2.25a$	$F(3, 99) = .24$

<i>Predictor</i>	<i>Maze Atts 3</i>	<i>RA Rate</i>
ISES	.05	.00
COND	-.21*	-.05
ISES X COND	-.05	.01
<i>Main effects model</i>	$F(2, 100) = 2.38a$	$F(2, 100) = .11$
<i>Interaction model</i>	$F(3, 99) = 1.62$	$F(3, 99) = .07$
CSW	-.07	.10
COND	-.20*	-.05
CSW X COND	-.04	.00
<i>Main effects model</i>	$F(2, 100) = 2.47a$	$F(2, 100) = .59$
<i>Interaction model</i>	$F(3, 99) = 1.66$	$F(3, 99) = .39$
NAMELIKE	-.12	.14
COND	-.22*	-.03
NAMELIKE X COND	.12	-.24
<i>Main effects model</i>	$F(2, 100) = 3.00a$	$F(2, 100) = 1.07$
<i>Interaction model</i>	$F(3, 99) = 2.21a$	$F(3, 99) = 1.63$
FFMQ	.14	-.03
COND	-.22*	-.04
FFMQ X COND	.04	.01
<i>Main effects model</i>	$F(2, 100) = 3.30*$	$F(2, 100) = .15$
<i>Interaction model</i>	$F(3, 99) = 2.22a$	$F(3, 99) = .10$

<i>Predictor</i>	<i>Maze Atts 3</i>	<i>RA Rate</i>
NLT	.00	.17a
COND	-.21*	-.06
NLT X COND	.14	-.03
<i>Main effects model</i>	$F(2, 100) = 2.24$	$F(2, 100) = 1.53$
<i>Interaction model</i>	$F(3, 99) = 1.91$	$F(3, 99) = 1.03$
STAB	.06	.01
COND	-.20a	-.05
STAB X COND	.18	.10
<i>Main effects model</i>	$F(2, 79) = 1.90$	$F(2, 79) = .09$
<i>Interaction model</i>	$F(3, 78) = 1.98$	$F(3, 78) = .27$
SCOMP	-.03	-.03
COND	-.21*	-.05
SCOMP X COND	.11	-.10
<i>Main effects model</i>	$F(2, 100) = 2.29$	$F(2, 100) = .16$
<i>Interaction model</i>	$F(3, 99) = 1.70$	$F(3, 99) = .25$
NPI	-.01	-.12
COND	-.21*	-.04
NPI X COND	-.15	.00
<i>Main effects model</i>	$F(2, 98) = 2.20$	$F(2, 98) = .85$
<i>Interaction model</i>	$F(3, 97) = 1.83$	$F(3, 97) = .56$

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; a = $p < .10$

Table 5.

Factor Analysis of Maze Attribution Items

Rotated Component Matrix			
<i>Item</i>	<i>Maze Atts 1 (Blame-Stable)</i>	<i>Maze Atts 2 (Blame-Unstable)</i>	<i>Maze Atts 3 (Typicality)</i>
Blame	0.80	-0.05	0.05
Own doing	0.79	0.13	-0.11
Responsible	0.68	0.24	0.42
Task difficulty	0.07	-0.84	0.08
Ability	0.40	0.60	0.39
Effort	0.49	0.57	0.04
Luck	0.05	0.25	-0.76
General success	0.09	0.30	0.75
Eigenvalue	2.86	1.27	1.11
% Variance	35.74	15.93	13.84

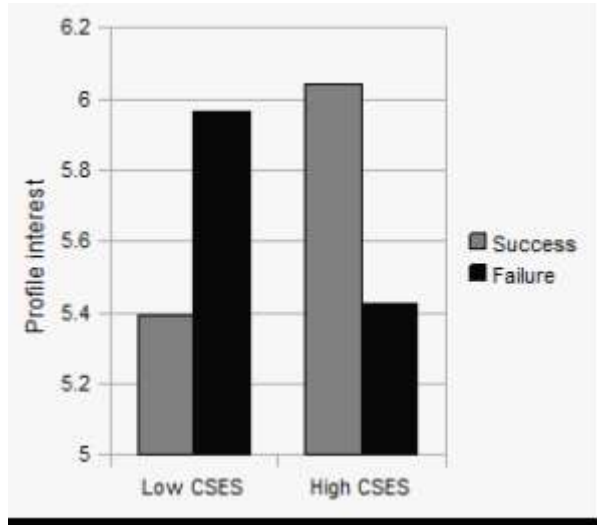


Figure 1. Self-reported interest in personality profile.

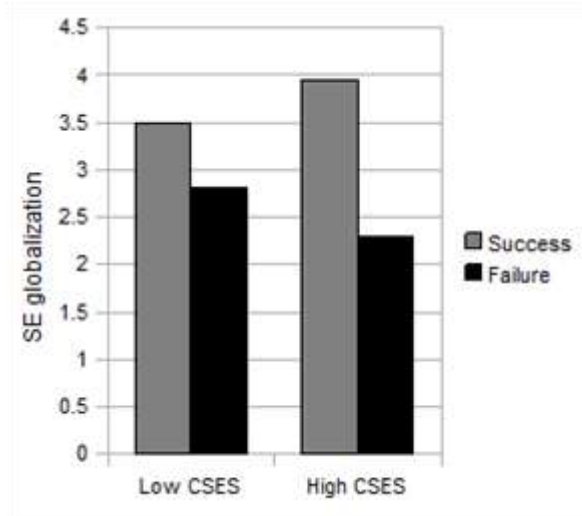


Figure 2. Globalization of task performance to self-esteem.

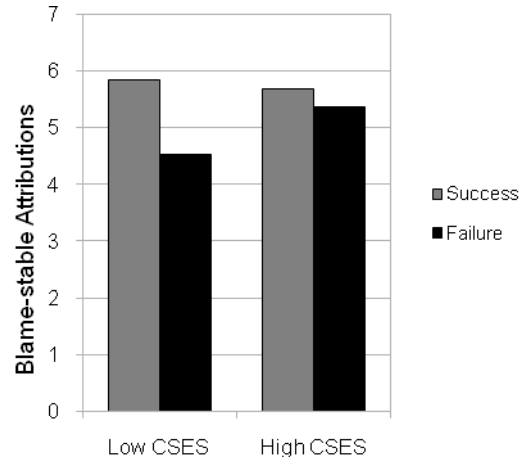


Figure 3. Blame-stable attributions for maze performance.

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APPENDICES

Appendix A. Word Stimuli for Lexical Decision Task

SUCCESS:

~good ~great ~awesome ~success ~win ~capable ~proud ~superior ~smart ~excellent
~wonderful ~above ~better ~intelligent

FAILURE:

~worse ~bad ~failure ~bottom ~stupid ~terrible ~poor ~dumb ~inferior ~last ~awful ~lose
~horrible ~disappointed

MAZE:

~ability ~future ~maze ~path ~progress ~task ~draw ~lines ~solve ~submit ~paper ~complete
~cognitive ~measure

NEUTRAL:

~account ~bridge ~chance ~library ~machine ~station ~village ~garden ~advice ~fashion
~reality ~waiting ~open ~appear

NONWORDS:

~athuct ~congelb ~essigy ~glirts ~hilbage ~myord ~omnicer ~polply ~roifar ~trourge ~shafpud
~thrinx ~watsif ~azimuck ~ursonal ~birnged ~tradder ~castopp ~dratter ~clieer ~lonbust
~houger ~drusier ~vaurd ~haurded ~hovvy ~ippicit ~ittoral ~ilkancy ~gazzo ~snoad ~deaged
~oppult ~offupy ~salch ~pelfin ~phonik ~spaises ~chesume ~shimal ~glapula ~clarce ~bratter
~chene ~drions ~plorn ~glorned ~meling ~glorkel ~traniel ~ppectra ~kleedy ~prelled ~clucco
~fludded ~thudent