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Contingencies of Self-Worth, Academic Failure, and Goal Pursuit

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Two studies examine the effects of failure on explicit and implicit self-esteem, affect, and self-presentation goals as a function of people's trait self-esteem and academic contingency of self-worth. Study 1 shows that participants with low self-esteem (LSE) who receive failure feedback experience lower state self-esteem, less positive affect, and less desire to be perceived as competent the more they base self-worth on academics. In contrast, participants with high self-esteem (HSE) who strongly base self-worth on academics show a slight boost in state self-esteem and desire to be perceived as competent following failure. Study 2 shows that following failure, academically contingent LSE participants downplay the importance of appearing competent to others and associate themselves with failure on an implicit level. Taken together, these findings suggest that academically contingent HSE people show resilience following failure, whereas academically contingent LSE people experience negative outcomes and disengage from the pursuit of competence self-presentation goals.

Keywords: *self-esteem; contingencies of self-worth; ego threat; self-presentation; motivation; goals*

In the early hours of June 20, 2006, a 16-year old boy in Tokyo set fire to his house, killing his stepmother, brother, and sister. The reason? The boy was ashamed of his poor academic test performance and wanted to avoid being scolded by his “results-obsessed” parents (Lewis, 2006). Although an extreme case, this example illustrates how profoundly failure can affect self-esteem, emotion, motivation, and behavior. When people fail, they may be

devastated emotionally; link failure to the self, thinking “I am a failure” rather than “I failed”; and pursue goals and behaviors to alleviate the pain of failure. Not everyone, however, reacts to failure in the same way. Research has shown that responses to failure differ by level of self-esteem; specifically, people with low self-esteem (LSE) are more emotionally hurt and demoralized by failure than people with high self-esteem (HSE).¹

Although research has documented self-esteem differences in response to failure, much of this work has focused on trait self-esteem effects (Baumeister & Tice, 1985; Brockner, Derr, & Laing, 1987; Brown & Dutton, 1995; Dodgson & Wood, 1998; Heatherton & Vohs, 2000; Shrauger & Rosenberg, 1970). The purpose of the present studies was to integrate and extend this body of research by examining the role of contingencies of self-worth—the specific domains on which people base their self-esteem (Crocker & Wolfe, 2001)—in conjunction with people's trait levels of self-esteem. Based on previous research and theorizing, we hypothesized that people with LSE would show exacerbated responses to failure, but only if their self-worth was contingent on the domain of threat. In the present studies, we examined the domain of academic compe-

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tence, a domain of importance and relevance to many college students (Crocker, Luhtanen, Cooper, & Bouvrette, 2003).

Contingencies of Self-Worth and Academic Failure

More than a century ago, William James (1890) observed that people seek to achieve worth and value in certain domains and not others. More recently, Crocker and colleagues proposed that people differ in the domains on which they stake their self-worth, or their contingencies of self-worth (Crocker & Wolfe, 2001). Whereas some people derive their self-worth from gaining others' approval, appearing attractive, or being academically competent, others derive self-worth from being virtuous, having God's love, or having support from one's family (Crocker, Luhtanen, et al., 2003). People are motivated to achieve boosts and avoid drops in their state self-esteem, relative to their trait levels, in domains on which their self-worth is staked. People are also more vulnerable to experiencing negative effects of ego threat when their self-esteem is contingent on a domain than when it is not. For example, students who base their self-worth on academics experience lower state self-esteem, less positive affect, more negative affect, depressive symptoms, and negative self-evaluative thoughts when they perform poorly on academic tasks, receive lower than expected grades, or are rejected from graduate schools, relative to those whose self-worth is less contingent on academics (Crocker, Karpinski, Quinn, & Chase, 2003; Crocker, Sommers, & Luhtanen, 2002; Niiya, Crocker, & Bartmess, 2004; Park & Crocker, 2003).

Self-Esteem, Contingencies of Self-Worth, and Responses to Failure

Although contingencies of self-worth are motivating, they may place certain individuals at risk when they fall short of meeting their standards of worth. In particular, people with LSE who base their self-worth on academics may be more emotionally hurt and derailed by failure than people with HSE who possess positive, confident self-views and are skilled at repairing their self-esteem following ego threat (see Baumeister, 1998). Indeed, a large body of research has shown that people with LSE are uncertain of themselves and their self-worth, and are less skilled at refuting ego threats directly than people with HSE (Blaine & Crocker, 1993; Campbell, 1990). When people with LSE fail, they become preoccupied with themselves, feel humiliated and ashamed, and internalize and generalize the negative feedback to other aspects of themselves (Brown & Dutton, 1995; Kernis, Brockner, & Frankel, 1989).

People with HSE, on the other hand, do not show such self-derogating tendencies; they do not feel bad about themselves when they fail or view failure as a global indictment of their character. Instead, they compensate by engaging in self-affirmation or calling to mind their strengths relative to weaknesses (Brown & Dutton, 1995; Dodgson & Wood, 1998).

Based on this literature, we expected that people with LSE would show negative responses to failure, but only if they strongly based their self-worth on academics. Specifically, participants with LSE who based their self-worth on academics and experienced failure were expected to have lower state self-esteem and positive affect than academically contingent HSE participants, who may be more resilient to negative feedback. Experiencing failure in a domain of contingent self-worth was also expected to influence the self-evaluations of people with LSE at an implicit, automatic level. Specifically, LSE participants who experienced failure were expected to show faster implicit associations between *self* and *failure* words versus *success* words, but only if they strongly based their self-worth on academics. Such findings would extend previous research showing that people with LSE focus more on their weaknesses relative to strengths following failure (Dodgson & Wood, 1998). In short, one aim of the present research was to demonstrate that not all people with LSE respond the same way to failure; only those who strongly base their self-worth in the domain of threat were expected to show effects.

Self-Presentation Goals

Social scientists have long recognized that self-images are constructed through a social, interpersonal process; people tend to see themselves as they believe others see them (Cooley, 1902; Mead, 1934; Shrauger & Schoeneman, 1979). Along these lines, we propose that constructing an image of the self as competent may involve not only seeing oneself as competent but also ensuring that others perceive and acknowledge one's competence. Another term for this idea is self-presentation—people's attempts to create, modify, or maintain an impression of the self in the minds of others (Schlenker, 1980). We define self-presentation goal as an effort to convey a desired image of oneself to others. People are likely to adopt self-presentation goals in domains on which they base their self-worth; for example, a person who bases self-worth on competence should be motivated to present himself or herself as competent to others, relative to someone who does not derive self-worth from this domain. Supporting this view, research has shown that the centrality and importance of self-aspects are associated with the motivation to present

oneself to others as possessing those self-aspects (Schlenker & Leary, 1982).

The self-worth theory of achievement motivation suggests that people are motivated to construct an image of themselves as competent to maintain and enhance their self-esteem (Covington, 2000). Along these lines, research has shown that students whose self-worth is contingent on academics tend to adopt achievement goals focused more on performance than on learning. For example, Crocker and Niiya (in press) found that basing self-worth on academics was strongly correlated with performance approach goals ($r = .40$), performance avoidance goals ($r = .53$), and ability validation goals ($r = .52$), but weakly correlated with mastery goals ($r = .17$). Ability validation goals—goals intended to demonstrate one's competence and intelligence—have been shown to be particularly problematic. Students with ability validation goals report that they would experience a loss of self-worth, denigrate themselves, and withdraw from the situation if they received negative performance feedback (Grant & Dweck, 2003). Whereas ability validation goals reflect the desire to validate one's academic ability without explicit reference to others, competence self-presentation goals represent the desire to appear competent to oneself and to others. In this way, self-presentation goals can be viewed as even more extrinsic than other types of ability- or performance-related goals because our definition implies the presence of an external audience.

In sum, we propose that people who base their self-worth on academics are likely to adopt competence self-presentation goals because appearing competent enhances their self-esteem, whereas demonstrating incompetence undermines their self-image of competence and thus their self-esteem.

Self-Esteem, Contingencies of Self-Worth, and Self-Presentation Goals

Achievement motivation researchers have proposed that competence valuation, or the degree to which a person cares about doing well at an activity, is an important process variable in achievement motivation (Harackiewicz & Manderlink, 1984). Of relevance to the present study, competence valuation has been shown to shift depending on the situation; for example, people value competence more when they receive positive versus negative performance feedback (Elliot et al., 2000). Along similar lines, we think that people may strategically engage versus disengage from the goal to appear competent to others as a function of both intrapersonal (i.e., trait self-esteem, contingencies of self-worth) and situational variables (i.e., type of feedback received). Specifically, we hypothesize that following

failure, people with LSE who base their self-worth on academics may express less desire to appear competent to others, whereas people with HSE who base their self-worth on academics may continue to strive to appear competent to others.

A key component of self-presentation is perceived ability to successfully create a desired self-image in the minds of others (Hogan, 1983). People with HSE who are confident of their ability to present a positive image of themselves to others should be more motivated to present themselves to others as competent the more they base their self-worth on academic competence. Even in the face of failure, they should continue to want to appear competent, not only because they believe they can successfully do so but because adopting such a strategy could help maintain and enhance their self-esteem. Our hypothesis is consistent with the idea that people with HSE are motivated by self-enhancement concerns, especially when their self-worth is at stake. Accordingly, people with HSE who base their self-worth on academics were expected to show "an aggressive, ambitious, risk-taking approach" in their pursuit of self-presentation goals (Baumeister, Tice, & Hutton, 1989, p. 552) by wanting to appear competent, even in the face of failure.

In contrast, people with LSE are relatively uncertain about their abilities and are easily influenced by external feedback; for example, they yield and comply more with situational demands and show more attitude change than people with HSE (Janis, 1954; McFarlin, Baumeister, & Blascovich, 1984). Therefore, whereas people with HSE were expected to pursue competence self-presentation goals regardless of ego threat, academically contingent LSE participants were expected to disengage from the goal to appear competent following failure. Supporting this idea, research has shown that people with LSE tend to doubt their self-presentational abilities (Schlenker & Leary, 1982) and prefer "a neutral, noncommittal, evasive self-presentational style" (Baumeister et al., 1989, p. 566). Indeed, in interpersonal situations, people with LSE are viewed as cautious, restrained, and inhibited following failure (Heatherton & Vohs, 2000).

Based on this literature, we hypothesized that the more people with LSE based their self-worth on academics, the more concerned they would be with how they appeared to others following failure. For people with LSE, the goal to appear competent is likely to be fragile; when their self-worth is staked in a domain, failure threatens not only their self-image but also their self-image in the eyes of others. Consequently, we expected that following failure, people with LSE who based their self-worth on academics would devalue the importance of appearing competent as a way to protect themselves from further self-esteem loss and from the possibility of

being negatively evaluated by others. We emphasize, though, that not all participants with LSE should respond this way. Only those who strongly base their self-worth on academics and fail should show this pattern of results because failure is more poignant when self-worth is contingent in a domain than when it is not.

Overview of Research

The overall aim of the present research was to integrate models of trait self-esteem and contingencies of self-worth to develop a theoretically coherent model of how self-processes interact and relate to one another. To this end, we conducted two studies examining the role of trait self-esteem, academic contingency, and failure on affective outcomes, pursuit of competence self-presentation goals, and implicit self-evaluations. Study 1 examined the effects of trait self-esteem, academic contingency, and failure feedback versus no feedback on state self-esteem, affect, and desire to be perceived by others as competent. Study 2 extended this work to examine the effects of trait self-esteem, academic contingency, and failure versus success feedback on pursuit of competence self-presentation goals relative to other domains and on implicit self-evaluations.

People with HSE were expected to show resiliency in the face of failure as a function of their academic contingency of self-worth. In contrast, people with LSE were expected to experience more negative outcomes the more they based self-worth on academics and failed. Specifically, they were expected to show more negative affect, become more cautious and self-protective in their pursuit of competence self-presentation goals, and associate themselves more quickly with failure on an implicit level than HSE participants, LSE participants whose self-worth was less contingent on academics, or participants who did not experience failure.

STUDY 1

Method

Participants

One-hundred and twenty-two participants (79 females, 43 males) from the Introductory Psychology Subject Pool at the University of Michigan participated in the study for psychology course credit. Participants ranged from 18 to 23 years of age ($M = 19.01$, $SD = 1.10$) and included 71% White, 14% Asian, 5% Black, 4% Hispanic/Latino, and 6% Other.

Materials

Contingencies of Self-Worth Scale. The Contingencies of Self-Worth Scale (Crocker, Luhtanen, et al., 2003)

assesses seven domains on which participants base their self-esteem using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Of particular interest were the five academic contingency items (e.g., “I feel bad about myself whenever my academic performance is lacking”; $\alpha = .83$).

Rosenberg Self-Esteem Scale (RSE). Trait self-esteem was assessed using the widely used and well-validated RSE (Rosenberg, 1965). The RSE is a 10-item measure of global self-esteem. Participants indicate on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) how much they agree with items such as “On the whole, I am satisfied with myself.” The RSE has high internal consistency (in this sample, $\alpha = .89$) and high test-retest reliability, and it has been demonstrated in numerous studies to be a valid measure of self-esteem.

Remote Associates Test (RAT). The RAT (McFarlin & Blascovich, 1984) purportedly measures people’s verbal abilities. In the present study, it was used to manipulate self-esteem threat by varying the difficulty of the items and hence the experience of success or failure. Participants were given a list of three words (e.g., *lounge-hour-drink*) and asked to think of a fourth word that has something in common with the other words (e.g., *cocktail*). Participants in the failure condition were given very difficult items to threaten their academic competence. Participants in this condition were led to believe that the RAT measured verbal abilities and predicted positive life outcomes. Specifically, they were told that the average student at their university scored 6 of 12 questions correctly, and that the average college student nationwide scored 5.3 of 12 questions correctly, which were false normative statistics. Although the experimenter gave participants accurate performance feedback, the items were so difficult that they were likely to score much fewer than 6 of 12 correct, leading them to experience failure. Participants in the no threat (control) condition simply rated which words they liked the best given a list of words and did not receive evaluative feedback.

Dependent Measures

State self-esteem. The state self-esteem scale was adapted from the RSE (Rosenberg, 1965) to measure self-feelings at the moment. Participants indicated how they felt about themselves at the moment using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) to answer items such as: “Right now, I feel that I am a person of worth, at least on an equal basis with others” (10 items, $\alpha = .93$).

Mood. To assess mood at the moment, participants rated on a 7-point scale (1 = *not at all*, 7 = *very much*) how much they felt positive affect (e.g., happy, cheerful,

TABLE 1: Descriptive Statistics and Correlations Among Variables (Study 1)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Academic contingency of self-worth	5.61	0.70	—						
2. Trait self-esteem	5.42	0.85	-.15 ⁺	—					
3. State self-esteem	5.38	1.05	-.14	.67***	—				
4. Anger/hostility	2.84	1.25	.13	-.25**	-.54***	—			
5. Sadness/depressed mood	2.54	1.06	.12	-.41***	-.55***	.70***	—		
6. Positive affect	4.55	1.01	-.15	.51***	.75***	-.64***	-.55***	—	
7. Competence self-presentation goal (Ratings)	5.76	0.77	.53***	.11	.09	.06	.00	.04	—

⁺ $p < .10$. ** $p < .01$. *** $p < .001$.

pleased; 7 items; $\alpha = .89$) and negative affect (e.g., angry, hostile, depressed; 11 items; $\alpha = .92$) after completing the control task or after receiving feedback on the RAT.

Competence self-presentation goal. Participants were given the stem: "Right now, it is important for me to be perceived as . . ." and rated on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) how important it was for them to be perceived as competent, knowledgeable, intelligent, respected, intellectual, confident, and not be perceived as incompetent, ignorant, stupid, disrespected, lazy, or unintelligent. An overall score for competence self-presentation goal was computed by averaging across all 12 items ($\alpha = .92$).²

Procedure

Upon entering the lab, participants were seated in cubicles and were told that they would be completing various tasks assessing aspects of their personality and cognitive processing. Participants were given a packet of questionnaires assessing demographic information, academic contingency, trait self-esteem, and filler questionnaires designed to disguise the true purpose of the study. Participants were then randomly assigned to complete either a very difficult RAT that was framed as a test of academic ability and predicted grade point average and future career success, or to a control task where they rated which word they liked the best given a list of words and received no evaluative feedback. For participants who completed the RAT, the experimenter graded their test in front of them and showed them their score, which was always below average given the difficulty of the items. Next, all participants completed state self-esteem, mood, and self-presentation goal ratings, in that order, and were then debriefed, thanked, given credit, and dismissed.

Results

Preliminary Analyses

Table 1 presents descriptive statistics and zero-order correlations among the variables of interest. Academic contingency of self-worth was marginally related to lower trait self-esteem and significantly related to adopting competence self-presentation goals. Trait self-esteem was significantly related to state self-esteem and mood in the expected directions, but not significantly related to competence self-presentation goals.

Data Analysis Strategy

To examine the associations among trait self-esteem, academic contingency, and failure, we first assessed the effectiveness of the failure manipulation. Next, we conducted multiple regression analysis to examine the effects of trait self-esteem, academic contingency, and failure on competence self-presentation goals. For all analyses, failure (coded as $-1 = control$, $1 = failure$), centered scores for trait self-esteem, academic contingency, their two-way interactions, and three-way interactions were entered simultaneously into a regression equation. In addition, demographic variables of gender and ethnicity were entered into the regression equation. Gender was coded as $-1 = male$, $1 = female$. Ethnicity was dummy coded as four race groups entered as three dummy variables ($1 = Black$, $0 = all other groups$; $1 = Asian$, $0 = all other groups$; $1 = Other$, $0 = all other groups$, making Whites the reference group).

Following the recommendations of Aiken and West (1991), we calculated expected values for participants' responses on the dependent measures at 1 *SD* above and 1 *SD* below the mean of trait self-esteem and academic

contingency in the failure and control conditions. Next, we examined the simple effect of academic contingency separately in the failure and control conditions at 1 *SD* above and 1 *SD* below the mean of trait self-esteem representing HSE and LSE, respectively. In addition to reporting standardized beta coefficients for the simple effects, we also report squared semipartial coefficients (sr^2) as another value of magnitude, which indicate the amount of variance accounted for by the effect of the independent variable on the dependent variable after partialing out effects of other variables.³

State Self-Esteem and Mood

Overall, participants in the academic failure condition experienced lower state self-esteem, $\beta = -.35$, $p < .001$; more negative affect, $\beta = .26$, $p < .01$; and less positive affect, $\beta = -.37$, $p < .001$, than those in the control condition. This is not surprising given that the median score on the RAT was 0, which was far below the purported average score of 6 of 12 for students at their university. Main effects of trait self-esteem also indicated that participants with higher trait self-esteem had higher state self-esteem, $\beta = .64$, $p < .001$; less negative affect, $\beta = -.35$, $p < .001$; and more positive affect, $\beta = .44$, $p < .001$, than those with lower trait self-esteem. These main effects were qualified by significant three-way interactions of Academic Contingency \times Self-Esteem \times Condition for state self-esteem, $\beta = .18$, $p < .01$, and positive affect, $\beta = .18$, $p < .04$.

For state self-esteem, there was a significant main effect of trait self-esteem, $\beta = .54$, $p < .001$, and a significant Academic Contingency \times Self-Esteem interaction in the failure condition, $\beta = .23$, $p < .05$. In the control condition, there was a significant main effect of self-esteem, $\beta = .91$, $p < .001$, and an Academic Contingency \times Self-Esteem interaction in the opposite direction, $\beta = -.15$, $p < .03$. Figure 1 illustrates the interactions. Simple slopes analyses revealed that among participants with LSE who failed, higher academic contingency scores tended to predict lower state self-esteem, $\beta = -.27$, $p < .09$; $sr^2 = .03$, whereas this effect was in the opposite direction among HSE participants, $\beta = .25$, $p < .19$; $sr^2 = .02$. In the no threat condition, higher academic contingency scores tended to predict higher state self-esteem among participants with LSE, $\beta = .19$, $p < .09$; $sr^2 = .01$, but was not related to state self-esteem for participants with HSE, $\beta = -.11$, $p < .16$; $sr^2 = .01$.

In sum, for people with LSE, basing self-worth on academics led to lowered state self-esteem following failure, whereas for people with HSE, basing self-worth on academics actually led to a slight boost in state self-esteem following failure. In the absence of threat, the direction of these effects was reversed. Our results are

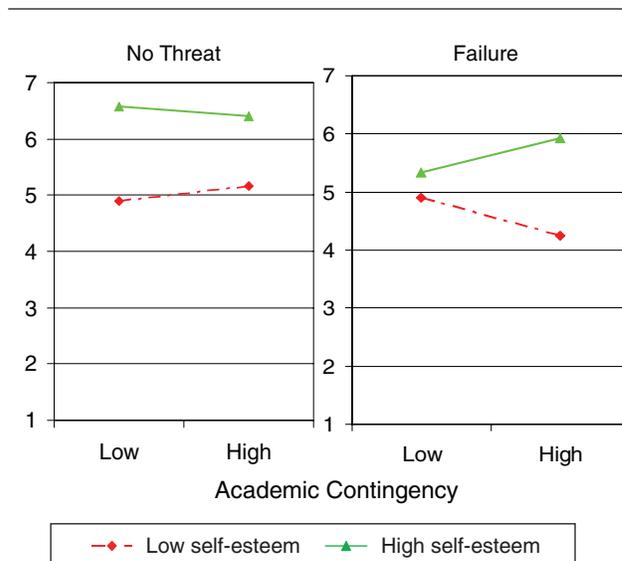


Figure 1 Dependent variable: State self-esteem (Study 1).

consistent with the idea that relative to people with HSE who are relatively resilient to ego threat, people with LSE are more negatively affected by a threat to a contingent domain and are less skilled at repairing their self-esteem following failure.

Next, we examined the Academic Contingency \times Self-Esteem interaction for positive affect in the failure and control conditions separately. This analysis revealed a significant main effect of trait self-esteem, $\beta = .39$, $p < .02$, and a two-way interaction in the failure condition, $\beta = .29$, $p < .03$. In the control condition, there was a significant main effect of self-esteem, $\beta = .69$, $p < .001$, but no two-way interaction, $\beta = .00$, $p < .99$. Figure 2 illustrates the interactions. Simple slopes tests revealed that among participants with LSE who failed, basing self-worth on academics predicted less positive affect, $\beta = -.46$, $p < .01$; $sr^2 = .09$, whereas this was not the case among participants with HSE, $\beta = .17$, $p < .40$; $sr^2 = .01$. In the control condition, academic contingency scores were not related to positive affect for either LSE participants, $\beta = .06$, $p < .75$; $sr^2 = .00$, or HSE participants, $\beta = .07$, $p < .64$; $sr^2 = .00$. Thus, as predicted, participants with LSE felt progressively less positive affect the more they based self-worth on academics and failed, consistent with research showing that people with LSE are more negatively affected by failure than people with HSE.

Competence Self-Presentation Goal

We hypothesized that people with HSE who based their self-worth on competence would want to appear competent to others regardless of the situation. In

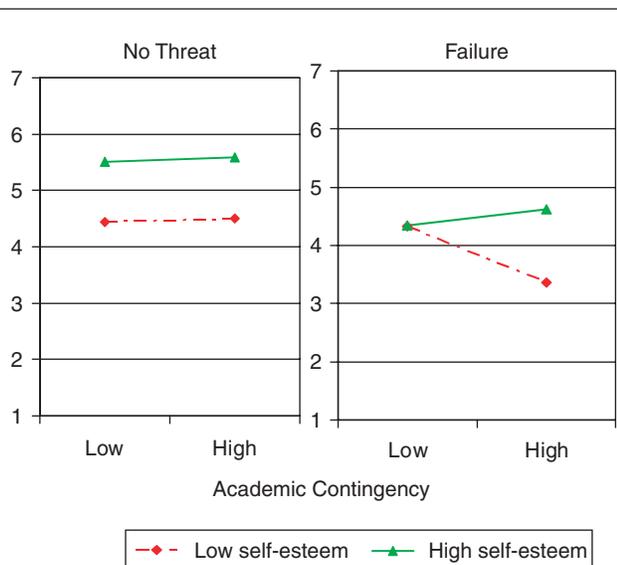


Figure 2 Dependent variable: Positive affect (Study 1).

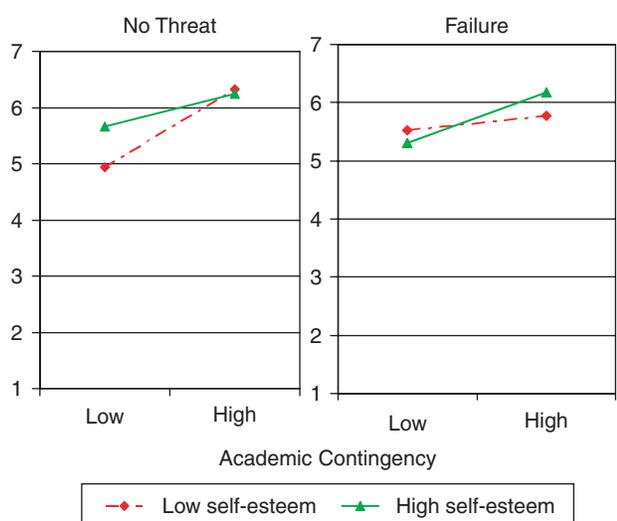


Figure 3 Dependent variable: Importance rating of competence self-presentation goal (Study 1).

contrast, people with LSE were expected to show less desire to appear competent to others following failure as a way to protect their self-esteem and avoid disapproval by others.

Results of regression analyses revealed a significant main effect of trait self-esteem, $\beta = .17, p < .05$, and academic contingency, $\beta = .57, p < .001$, qualified by a significant Academic Contingency \times Self-Esteem \times Condition interaction, $\beta = .20, p < .04$. Analysis of the Academic Contingency \times Self-Esteem interaction separately in the failure and control conditions revealed a

significant two-way interaction in the control condition, $\beta = -.27, p < .02$, and a nonsignificant interaction that reversed in direction in the failure condition, $\beta = .15, p < .29$ (see Figure 3). In addition, in the control condition, there were significant main effects of trait self-esteem, $\beta = .22, p < .04$, and academic contingency, $\beta = .64, p < .001$; following failure, there was just a main effect of academic contingency, $\beta = .47, p < .01$.

Simple slopes analyses revealed that for participants with LSE, basing self-worth on academics predicted greater desire to be perceived as competent in the control condition, $\beta = .91, p < .001; sr^2 = .25$, but much less so following failure, $\beta = .31, p < .11; sr^2 = .04$. For participants with HSE, basing self-worth on academics predicted greater desire to be perceived as competent in both the control condition, $\beta = .38, p < .01; sr^2 = .08$, and failure conditions, $\beta = .64, p < .01; sr^2 = .12$, with the magnitude of the effect being slightly greater following failure.

Consistent with our predictions, these results show that people with LSE who based their self-worth on academics showed decreased motivation to appear competent following failure. Receiving failure feedback may have undermined their already fragile perceptions of academic ability, leading them to devalue the competence domain as a way to protect their self-esteem and avoid disapproval by others. In contrast, participants with HSE wanted to be perceived as competent the more they based self-worth on academics, with a slight boost in motivation following failure. Our results are consistent with the finding that people with HSE tend to defend their self-views following ego threat and are more resilient to negative feedback than people with LSE (Dodgson & Wood, 1998).

Gender and Ethnicity Analyses

In addition to our primary analyses, we examined whether gender or ethnicity moderated our results. Gender did not moderate any of our effects. The only significant finding was an Asian \times Academic Contingency \times Self-Esteem \times Condition interaction, $\beta = -.44, p < .01$, for positive affect. Specifically, Asians with LSE tended to show increased positive affect the more they based self-worth on academics and experienced failure, $\beta = .66, p < .13$, whereas this was not the case in the control condition, $\beta = -.14, p < .50$. For Asians with HSE, basing self-worth on academics tended to predict increased positive affect in the control condition, $\beta = .61, p < .16$, which reversed in direction in the failure condition, $\beta = -.75, p < .23$.

Why might academically contingent Asians with LSE experience increased positive affect following failure? One possibility is that whereas Westerners seek self-enhancement, Asians seek self-criticism and self-improvement (Heine,

Kitayama, & Lehman, 2001; Heine, Lehman, Markus, & Kitayama, 1999). Accordingly, Asian participants might have felt better after receiving negative self-relevant feedback because such information could be useful for self-improvement (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). However, given that there was no effect of ethnicity on any other dependent measure, we caution interpretation of this one finding. The broader, consistent finding from this study is that people with LSE who based their self-worth on academics experienced negative outcomes following failure; although Asian participants' increased positive affect may pose an exception, further research is necessary to confirm this.

STUDY 2

A limitation of Study 1 is that receiving feedback may have been confounded with the priming of the academic domain for participants in the RAT condition. That is, participants who received failure feedback on the RAT were told that the test measured verbal abilities, whereas those in the control condition did not receive any feedback and were not told that their task measured verbal abilities. A goal of Study 2 was to address this confound by comparing failure with success feedback rather than with no feedback.

Study 2 also sought to replicate and extend the findings of Study 1 regarding pursuit of competence self-presentation goals. Specifically, we examined participants' desire to be perceived as competent relative to other domains using importance rankings rather than ratings of domains. In line with Study 1, we hypothesized that people with LSE who experienced failure would downplay the importance of appearing competent relative to other domains, but only if they strongly based their self-worth on academics.

A further aim of Study 2 was to examine participants' implicit self-evaluations following failure using the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) to assess whether failure feedback affected automatic self-evaluations. Greenwald and Farnham (2000) developed the first self-esteem IAT using the categories of self versus other paired with pleasant versus unpleasant words. In the present research, we modified this basic procedure to examine self versus other words paired with failure versus success words to reflect the specific manipulations used. The IAT assesses automatic responses to stimuli, thereby circumventing biases inherent in explicit self-reports (Greenwald & Banaji, 1995). Demonstrating effects of failure on implicit as well as explicit self-esteem helps address concerns that our effects merely reflect social desirability biases.

We predicted that among LSE participants, basing self-worth on academics would lead to faster reaction times to associate oneself with failure versus success words following failure feedback. Such findings would extend previous research showing that people with LSE do not expect to succeed following failure (Shrauger & Rosenberg, 1970) and are quicker to access their weaknesses relative to strengths (Dodgson & Wood, 1998). Extending past research, however, we hypothesized that only LSE participants who strongly based their self-worth on the domain of threat would implicitly evaluate themselves as a failure, whereas those who based self-worth less on academics would not show this effect.

Method

Participants

One-hundred and nine participants (50 females, 58 males, 1 did not indicate gender) from the Introductory Psychology Subject Pool at the University at Buffalo participated in the study for psychology course credit. Participants ranged from 18 to 36 years of age ($M = 19.79$, $SD = 2.27$) and included 47% White, 39% Asian, 10% Black, 1% Hispanic/Latino, and 3% Other.

Materials

The following questionnaires were identical to those used in Study 1: demographic form assessing gender, age, and ethnicity; the Contingencies of Self-Worth Scale measuring academic contingency ($\alpha = .73$); and the RSE measuring trait self-esteem ($\alpha = .90$).

In the present study, two versions of the RAT (McFarlin & Blascovich, 1984) were used to manipulate failure versus success. Instructions were identical in the failure and success conditions: Participants were told that the average student at their university scored 6 of 12 questions correctly and that the average college student nationwide scored 5.3 of 12 questions correctly, which were false normative statistics. In the failure condition, participants were given a very difficult RAT and given accurate feedback regarding their performance, which was always below the purported average score because of the difficulty of the items and thus led them to experience failure. In the success condition, participants were given an easy RAT that had been pretested to include very easy items to ensure that participants would always score higher than 6 of 12, leading them to experience success.

Dependent Measures

Competence self-presentation goal. Participants ranked from 1 to 5 (1 = *most important*, 5 = *least*

important) how important it was for them at the moment to be perceived as competent/ intelligent/ knowledgeable, likable/sociable/popular, attractive/ good-looking/physically fit, warm/caring/kind, and virtuous/moral/responsible. Importance of self-presentation goal domains was later reverse-scored so that participants' first choice was assigned a 5, second choice a 4, and so on. These domains were selected because they are areas in which people are likely to base their self-worth and have been used in other studies examining self-presentation goals (Park & Crocker, in press).

IAT. The IAT (Greenwald et al., 1998) is a computerized reaction time task that measures the relative speed of associations made between target concepts and attributes. The automatic association between a concept (*me*) and an attribute (*failure*) is measured by the difference in speed between the condition in which *me* and *failure* are mapped together on the same key, and the condition in which *me* and *success* are mapped together on the same key. Implicit scores are computed by calculating a difference score in response latency times between the two opposing configurations. In the present study participants categorized words related to the self and other with words related to failure (e.g., *worthless*, *failure*, *incompetent*) and words related to success (e.g., *worthy*, *success*, *competent*).

Procedure

Participants came into the lab for a study on "Personality and Academic Performance." Upon entering the lab, participants were seated at private cubicles where they completed questionnaires assessing demographic information, academic contingency of self-worth, and trait self-esteem. Participants were then randomly assigned to complete either a very difficult RAT that led them to fail or a very easy RAT test that led them to succeed. The experimenter graded their tests in front of them and showed them their actual score. Next, all participants completed the self-presentation goal rankings and the IAT. The order in which participants completed the explicit measure and the IAT was counterbalanced. Finally, participants were debriefed, thanked, given credit, and dismissed.

Results and Discussion

Preliminary Analyses

Table 2 presents descriptive statistics and correlations among the study variables. Academic contingency of self-worth was significantly related to lower trait self-esteem. No other correlations were significant.

TABLE 2: Descriptive Statistics and Correlations Among Variables (Study 2)

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Academic contingency of self-worth	5.23	0.85	—			
2. Trait self-esteem	5.41	0.99	-.26**	—		
3. Competence self-presentation goal (rankings)	2.46	1.46	.01	-.16	—	
4. Success-failure IAT	0.68	0.53	-.04	.03	-.01	—

NOTE: IAT = Implicit Association Test.
** $p < .01$.

Data Analysis Strategy

First, we analyzed descriptive statistics to ensure that participants in the failure and success conditions scored below and above the purported score of the average college student. Next, we conducted multiple regression analyses examining the interactive effects of academic contingency, trait self-esteem, and experimental condition on self-presentation goals and IAT scores. In all regression analyses, gender and ethnicity (coded as in Study 1), order of dependent measures (coded as 1 = *explicit*, *implicit*; 2 = *implicit*, *explicit*) were entered into the regression equation as control variables. Centered scores for trait self-esteem, academic contingency, experimental condition (coded as -1 = *success*, 1 = *failure*), their two-way interactions, and three-way interaction of Self-Esteem \times Academic Contingency \times Condition were entered simultaneously into the regression equation.

Manipulation Check

As expected, participants in the failure condition scored much lower than the purported average of 6/12 questions on the RAT ($N = 53$, $Mdn = 0$, $Mode = 0$). In the success condition, participants scored much higher than the purported average of 6 of 12 questions on the RAT ($N = 56$, $Mdn = 10$, $Mode = 11$), confirming the effectiveness of our manipulation.

Competence Self-Presentation Goal

Multiple regression analysis examined the effects of trait self-esteem, academic contingency, and experimental condition on participants' desire to be perceived as competent relative to other domains. Results revealed a significant Academic Contingency \times Condition interaction, $\beta = -.26$, $p < .03$, qualified by a significant Self-Esteem \times Academic Contingency \times Condition interaction, $\beta = .30$, $p < .02$. Specifically, there was a significant Academic Contingency \times Self-Esteem interaction in the failure condition, $\beta = .43$, $p < .02$, that reversed in direction in the success condition, $\beta = -.21$, $p < .21$. Figure 4

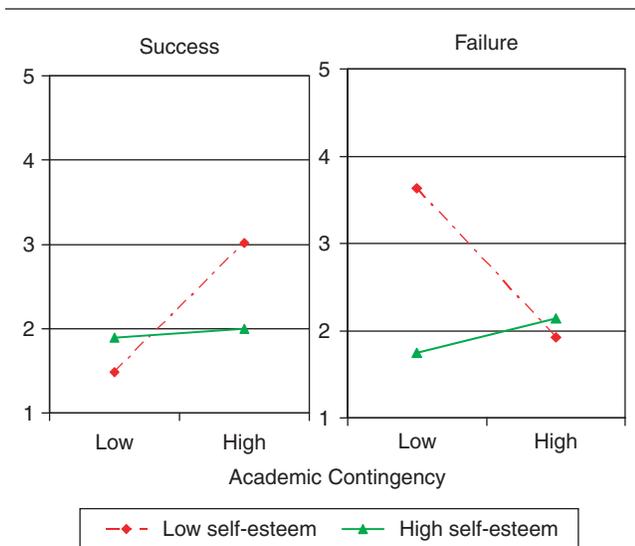


Figure 4 Dependent variable: Importance ranking of competence self-presentation goal (Study 2).

illustrates the interactions. Specifically, participants with LSE who received failure feedback ranked appearing competent as less important relative to other domains, but only if their self-worth was contingent on academics, $\beta = -.67$, $p < .04$; $sr^2 = .14$. In the success condition, this direction was reversed, $\beta = .36$, $p < .15$; $sr^2 = .04$. Among participants with HSE, basing self-worth on academics was not related to wanting to be perceived as competent in the failure condition, $\beta = .24$, $p < .33$; $sr^2 = .03$, or in the success condition, $\beta = -.25$, $p < .21$; $sr^2 = .03$. In sum, as predicted, participants with LSE downplayed the importance of appearing competent to others the more they based their self-worth on competence and experienced failure.

It is important to note that in Study 1, self-presentation goals were rated on an absolute scale whereas in Study 2, self-presentation goals were ranked by importance relative to other domains. This difference in measurement may explain why participants with LSE in Study 1 showed a weakened relationship between their academic contingency and desire to appear competent following failure, whereas they showed a strong, negative relationship between their academic contingency of self-worth and competence self-presentation goal following failure in Study 2. In other words, the strong, negative relationship found in Study 2 between academic contingency and competence self-presentation goal suggests that participants with LSE who based their self-worth on academics downplayed the importance of appearing competent to others relative to other domains following failure.

Implicit Associations

Next, we examined the effects of academic contingency of self-worth and trait self-esteem on participants' implicit associations following failure versus success.

IAT scoring. IAT scores were computed by following the *D* statistic scoring algorithm recommended by Greenwald, Nosek, and Banaji (2003). First, we removed participants who made more than 10% of their responses in less than 300 ms ($n = 11$). Next, mean response latencies were computed for trials in Stages 3 and 5. Then, the difference score for the trials was computed by subtracting the mean response latency for Stage 3 trials from the mean response latency for Stage 5 trials. This difference score was then scaled by the standard deviation for all the trials in Stages 3 and 5.

Positive difference scores indicate a tendency to more quickly associate concepts and attributes paired in Stage 3 (i.e., "me" with success/"not me" with failure) than concepts and attributes paired in Stage 5 (i.e., "not me" with success/"me" with failure). Negative difference scores indicate a tendency to more quickly associate concepts and attributes paired in Stage 5 (i.e., "not me" with success/"me" with failure) than concepts and attributes paired in Stage 3 (i.e., "me" with success/"not me" with failure).

Results of regression analyses revealed a significant main effect of order, $\beta = .26$, $p < .03$, such that participants who completed the IAT and then the explicit goals measure showed lower implicit self-esteem than those who completed the measures in the reverse order. Moreover, there was a significant Academic Contingency \times Self-Esteem \times Condition interaction, $\beta = .27$, $p < .03$. Specifically, the Academic Contingency \times Self-Esteem interaction was marginally significant in the success condition, $\beta = -.30$, $p < .07$, and reversed direction in the failure condition, $\beta = .28$, $p < .09$. Figure 5 illustrates the interactions.

Simple slope tests revealed that participants with LSE who failed tended to be quicker to associate "me" with failure and "not me" with success the more their self-worth was contingent on academics, $\beta = -.36$, $p = .10$. In the success condition, participants with LSE tended to show the opposite pattern—they were quicker to associate "me" with success and "not me" with failure, $\beta = .40$, $p < .10$, the more their self-worth was contingent on academics. For participants with HSE, the effect of academic contingency on reaction times to failure words versus success words was not significant in either the failure condition, $\beta = .12$, $p < .57$, or success condition, $\beta = -.33$, $p < .19$.

Taken together, these results reveal that participants with LSE showed relatively malleable implicit self-evaluations following failure in a domain of contingent

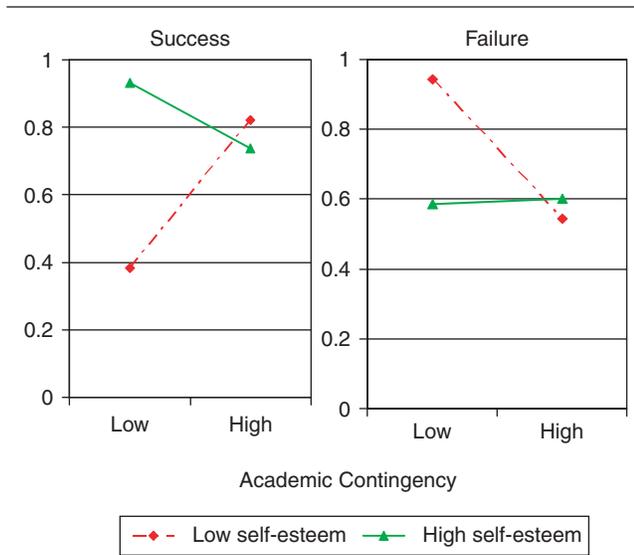


Figure 5 Dependent variable: Success–failure Implicit Association Test (Study 2).

NOTE: Higher values = faster reaction time to categorize “Me” with “Success”/ “Not Me” with “Failure.” Lower values = faster reaction time to categorize “Me” with “Failure”/“Not Me” with success.

self-worth. Specifically, among participants with LSE, those who based their self-worth on academics and failed were more likely to think of themselves as worthless, inferior, and incompetent, whereas following success they tended to think of themselves as superior, smart, and competent. In contrast, participants with HSE were relatively resilient under ego threat and did not show effects of being threatened on their implicit self-evaluations.

Supplemental Analyses

In addition to our primary analyses, we examined whether the order in which participants in the failure condition completed the dependent measures had an effect on their implicit self-esteem. Specifically, we examined the possibility that academically contingent LSE participants may have strategically disengaged from the competence domain following failure as a way to protect their self-esteem from further loss. Because we counter-balanced the order of the IAT with the self-presentation goals measure, we were able to test the moderating effect of order on implicit self-esteem among participants who were in the failure feedback condition.

Results of regression analyses revealed a marginally significant four-way interaction of Order \times Self-Esteem \times Academic Contingency \times Failure, $\beta = .68$, $p = .07$. Specifically, participants with LSE who received failure feedback, completed the IAT, and then the goals measure tended to be quicker to associate themselves with failure the more they based their self-worth on academics, $\beta = -.57$, $p < .16$. In contrast, the opposite pattern

was observed among participants with LSE who failed, completed the goals measure first, and then the IAT, $\beta = .60$, $p < .19$. For participants with HSE, basing self-worth on academics did not predict IAT scores in either the implicit, explicit condition, $\beta = .09$, $p < .77$, or the explicit, implicit condition, $\beta = -.09$, $p < .80$. These findings suggest that academically contingent LSE participants may have strategically downplayed the importance of appearing competent to others following failure as a way to protect themselves, as indicated by their buffered implicit self-esteem. That is, disengaging from the competence domain might have served as an indirect form of self-affirmation because devaluing one domain implies greater valuation of other domains using the ranking scale.

Gender and Ethnicity Analyses

Finally, we examined whether gender or ethnicity moderated our effects. In contrast to Study 1, ethnicity did not significantly moderate any effects; instead, there was only a Gender \times Academic Contingency \times Self-Esteem \times Condition interaction, $\beta = .33$, $p < .03$, for implicit self-esteem. Specifically, males with LSE who based their self-worth on academics and failed showed decreased implicit self-esteem, $\beta = -.70$, $p < .02$, whereas the reverse tended to be true in the control condition, $\beta = .53$, $p < .12$. No other effects were significant for males or females in the failure or success conditions, and there was no gender difference for competence self-presentation goals. Given that Study 1 also lacked gender differences, we doubt that males are the only ones affected by failure feedback. Instead, what is consistent across studies is that overall, people with LSE who based their self-worth on academics were most affected by failure.

GENERAL DISCUSSION

Academic failure can be devastating, as illustrated by the story of the 16-year-old boy who set fire to his house to avoid having to disclose his academic failures to his parents. In the present study, academic failure influenced state self-esteem, affect, and goal pursuit. People with LSE who based their self-worth on academics were most at risk for experiencing the negative effects of failure. Specifically, participants with LSE who failed experienced lowered state self-esteem and positive affect, but only if they based their self-worth on academics (Study 1). These participants also implicitly associated themselves with failure following the receipt of failure versus success feedback (Study 2).

Whereas contingencies of self-worth represent relatively stable constructs, the goals that people pursue are dynamic and may shift from moment to moment

(Crocker & Park, 2004). In the present studies, participants with LSE who failed showed decreased desire to appear competent to others as a function of their academic contingency of self-worth, but not in the no threat or success conditions. In contrast, participants with HSE did not show such effects; they showed a slight boost in state self-esteem and motivation to appear competent to others following failure. Thus, engagement versus disengagement from goal pursuit, like the process of competence valuation (Elliot et al., 2000), is a flexible process that depends on both situational and personality factors. Taken together, our results integrate models of trait self-esteem and contingencies of self-worth by providing a more comprehensive understanding of how self-processes influence affect and goal pursuit.

Implications for Self-Esteem, Self-Presentation, and Motivation

Past research has shown that people with LSE who experience failure experience more negative affect (Moreland & Sweeney, 1984), generalize failure to other aspects of themselves (Kernis et al., 1989), and are less skilled at recruiting positive thoughts about themselves than people with HSE (Dodgson & Wood, 1998). The present research extended these findings by showing that not all people with LSE react negatively to academic failure; only those who strongly base their self-worth in the domain of threat are affected.

Several interpretations may explain why people with LSE decreased their motivation to appear competent to others following failure in a domain of contingent self-worth. One possibility is that failure led these individuals to doubt their ability to appear competent to others, leading them to devalue the importance of the domain to protect their self-esteem. Indeed, past research has shown that people with LSE tend to withdraw effort and become demotivated following failure because of lowered expectations for future success (Brockner et al., 1987; Shrauger & Rosenberg, 1970). Accordingly, participants with LSE who based their self-worth on academics may have disengaged from the goal to appear competent following failure because they lost confidence in their ability to convey such an image to others.

A related explanation for the disengagement finding is that academically contingent LSE participants may have experienced heightened motivation to avoid rejection following failure. Past research has shown that people with LSE are chronically concerned about their belongingness with others (Leary & Baumeister, 2000) and possess contingencies of interpersonal acceptance, whereby failure automatically activates rejection concerns (Baldwin & Sinclair, 1996). People with LSE may have therefore disengaged from the goal to appear competent

as a way to protect themselves from the possibility of rejection, particularly if they staked their self-worth on competence.

A third explanation for the disengagement finding is that participants with LSE strategically downplayed the importance of competence to preserve their self-esteem. Indeed, the supplemental findings of Study 2 provide suggestive support for the idea that disengagement might have led to self-esteem buffering effects for LSE participants. In that study, academically contingent LSE participants who completed the goals measure first and then the IAT showed no negative effects of failure on their implicit self-esteem, whereas LSE participants who completed the IAT first and then the goals measure showed lower implicit self-esteem. These findings suggest that disengagement could have served as a form of indirect self-affirmation for LSE participants. However, considering the marginal nature of these effects, this possibility requires further investigation before any firm conclusions can be drawn regarding the protective properties of disengagement.

In contrast to people with LSE, people with HSE possess positive, confident self-views and believe they are socially accepted by others (Baumeister, 1998; Leary & Baumeister, 2000). When people with HSE receive negative feedback, they typically respond by dismissing the validity of the feedback, derogating the source of the feedback, and self-affirming in other domains (e.g., Spencer, Josephs, & Steele, 1993). Consistent with these findings, participants with HSE in the present research showed greater resilience to threat in a domain of contingent self-worth than participants with LSE. Specifically, participants with HSE who failed did not show lowered state self-esteem or negative effects on mood or implicit self-esteem as a function of their academic contingency of self-worth. Instead, academically contingent HSE participants showed slightly higher state self-esteem following failure, suggesting that the threat may have mobilized their efforts to refute the negative feedback and affirm themselves.

It is important to note that in the present research, self-presentation goals were measured in a way that emphasized the interpersonal component (e.g., "Right now, how important is it for you to be perceived by others as competent?"). Nonetheless, we think that self-presentation goals are not limited to interpersonal concerns but may also involve intrapersonal concerns. Cooley (1902) proposed in his theory of reflected appraisals that people's perceptions of themselves are inextricably tied to the way they imagine themselves to appear in the eyes of others. Supporting this idea, we found a significant, positive correlation between the importance people placed on viewing themselves as competent versus the importance they placed on having

others view them as competent ($r = .44, p < .001$; Park & Crocker, 2005a). Thus, although self-presentation goals are largely interpersonal in nature, they may also reflect how people want to view themselves. Indeed, people may use self-presentation for self-construction because convincing others that we possess a certain quality is a way of convincing ourselves (Schlenker, 1980).

Implications for Interpersonal Processes

The present findings provide potential explanations for why people with HSE and LSE differ in their interpersonal responsiveness and likability following ego threat. In Park and Crocker's (2005b) study, academically contingent HSE participants who failed were rated by partners disclosing a personal problem as being preoccupied, unsupportive, and unlikable, whereas academically contingent LSE participants tended to be viewed as supportive and likable following failure. In the present research, participants with LSE who failed showed decreased desire to appear competent as a function of their academic contingency of self-worth. It is possible, then, that participants with LSE were viewed as more supportive and likable in Park and Crocker's study because they showed less desire to appear competent to others following ego threat. Disengaging from the goal to appear competent, in turn, may have enabled LSE participants to focus more on others' needs, consistent with research showing that people with LSE become more interpersonally focused following failure (Vohs & Heatherton, 2001).

An alternative explanation is that academically contingent LSE people placed less importance on appearing competent and more importance on other, more interpersonally focused domains, such as wanting to appear likable, which might also account for why they were more liked following self-threat.

In the present research, participants with HSE who failed showed a slight boost in state self-esteem and desire to appear competent to others as a function of their academic contingency of self-worth. Such a response could be interpreted as a defensive reaction aimed at repairing one's self-esteem following failure. Thus, it is possible that people with HSE may have become less likable following failure in Park and Crocker's (2005b) study because they sought to validate their intrapersonal abilities (e.g., their competence). Indeed, Vohs and Heatherton (2001) found that participants with HSE adopted an independent self-construal and focused more on their personal qualities following failure, which accounted for their decreased likability ratings following threat. Increased desire to defend one's self-esteem and appear competent to others following failure may ultimately interfere with the ability to be supportive toward others because the focus is

more on the self than on others (Park, Crocker, & Vohs, 2006). In contrast, temporarily letting go of the desire to appear competent may free one's focus and direct attention away from the self toward others. Future research could examine these ideas directly to determine whether it is the desire to appear (or not appear) competent in certain situations that affects interpersonal supportiveness and likability, or whether the desire to self-present other aspects of the self (e.g., likability) also leads to these effects.

Limitations and Future Directions

A limitation of the current study was its reliance on self-report measures. Study 2, however, included an implicit measure of self-evaluations that helped circumvent this problem. Future studies could assess goal pursuit behaviorally, such as measuring task performance or persistence. Another limitation was our exclusive focus on the academic domain. Because we did not measure other domains of contingency, we cannot conclude whether our effects were due to the academic domain or whether having contingent self-worth in general or contingent self-worth in other domains might have accounted for our results. Future studies could assess other domains of contingency to compare their effects with the specific domain of contingency under investigation.

Finally, research could examine potential ways to buffer people's self-esteem from negative feedback, especially among people with LSE who base their self-worth on academics. One strategy might involve removing the threat component from academic situations by deemphasizing the evaluative aspects of test taking and thereby reducing students' ego involvement in academic tasks. Indeed, in Study 1 we found that describing the purpose of a task in a neutral, nonevaluative way reduced the threat to self-esteem relative to test instructions that triggered evaluative concerns and comparisons with others.

Another strategy might involve helping people cope with negative feedback. In particular, having people adopt learning goals in academic settings rather than performance goals or goals concerning how one appears to others may facilitate academic performance and persistence. Along these lines, research has shown that having a learning orientation buffers people with academically contingent self-esteem from the negative effects of failure (Niiya et al., 2004). In addition, research by Grant and Dweck (2003) found that students who adopted learning goals showed more active coping, persistence, and higher motivation and achievement in the face of challenge than students who adopted ability goals, who tended to withdraw and show poor performance in the face of challenge.

Conclusion

In recent years, researchers have begun investigating multiple aspects of self-esteem, including specific domains on which people stake their self-worth (Crocker & Wolfe, 2001). Although basing self-worth on academics can be motivating, it can also be a source of vulnerability, especially for people with LSE who are uncertain of their abilities to begin with. Supporting this view, the present research found that relative to people with HSE, people with LSE were more negatively affected by failure and showed less desire to appear competent to others the more they based self-worth on academics and failed. In contrast, people with HSE were less affected by failure and showed slightly higher state self-esteem and desire to appear competent as a function of their academic contingency of self-worth. An interesting finding that emerged was that people with LSE who failed and then downplayed the importance of appearing competent showed buffering effects on their implicit self-esteem, suggesting they may have disengaged from the threatened domain to protect their self-esteem from further loss. Future research could examine whether these individuals used disengagement as a form of indirect self-affirmation or whether they disengaged for other reasons. Overall, the present research suggests that a more comprehensive understanding of people's emotional, cognitive, and motivational responses to failure may be gained by considering the domains on which people's self-worth is contingent.

NOTES

1. Our use of high self-esteem (HSE) and low self-esteem (LSE) refers to relative rather than categorical or absolute differences in trait self-esteem.

2. In the present study, wanting to be perceived as competent versus not wanting to appear incompetent were correlated ($r = .96, p < .002$), indicating that these approach and avoidance items reflect the same underlying construct. Consequently, our measure includes both approach and avoidance items.

3. Because of space limitations, we did not report the results for all of the main effects and interactions in our regression analyses beyond those of primary interest. Further results may be obtained from the first author.

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