CONTINGENCIES OF SELF-WORTH:
IMPLICATIONS FOR MOTIVATION
AND ACHIEVEMENT

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There are a lot of things I should be doing to plan for graduation. I basically have little
idea as to what I want to do. I have not done a better job investigating the possibility of
graduate school because of my fear of not getting in. I am also afraid of taking another
standardized test so the idea of taking the GRE is very intimidating to me. I am just
petrified of a test telling me that I am incompetent. Given this, I have been turned off
from graduate school altogether – Alison, college senior.

My biggest challenge this semester is definitely trying to turn myself around
academically. I guess the deeper issue is trying to motivate myself. I seem to start
every semester with the same attitude, “this time’s going to be different, this time I’m
really going to apply myself,” yet for the past 2 years I end up either dropping or failing
my classes. The thing is, I know I am capable of it. There has never been a class that
I have put effort into that I haven’t done well in, but there are many classes that I haven’t
put effort into at all. If I feel like I am getting behind, I tend to give up instead of trying
to catch up – Courtney, 6th year college student.

Although many students negotiate high school, college, or graduate school
with few difficulties, other students, like Alison and Courtney, become stuck,
failing to make progress toward important goals, such as graduating or
developing a plan for postgraduate education. The roots of Alison and
Courtney’s difficulties are not immediately obvious; neither lacks the ability to
succeed (although not mentioned in the quotation earlier, Alison is a straight A
college student), and each of them has some awareness of steps that could help.
them make progress (for Alison, simply taking the Graduate Record Exam (GRE) would create numerous options, and Courtney knows that simply attending class and putting effort into academics would enable her to do well and graduate). Like many people, Alison and Courtney know what they should do to achieve their goals, but something holds them back from doing it.

We argue that the root of Alison and Courtney’s difficulties, the thing that holds them and many people (not only college students) back from making progress toward their goals is contingent self-worth — basing self-esteem on achievements. It may seem paradoxical that students whose self-worth depends on succeeding academically would engage in self-defeating behaviors that limit their success. In this chapter, we describe a program of research on contingencies of self-worth and their implications for motivation and achievement. We argue that when self-esteem is at stake, people are highly motivated to succeed and not fail, but they sometimes respond to difficult or challenging situations by prioritizing protecting self-esteem above achieving other goals, which can lead to apparently self-defeating behavior. We then explore what types of goals can help students like Alison and Courtney make progress, despite having contingent self-worth.

SELF-ESTEEM AND CONTINGENCIES OF SELF-WORTH

Terminology

We use the term self-esteem to refer to global judgments of the worth or value of the self as a person (Rosenberg, 1965). Researchers sometimes use the term self-esteem to refer to domain-specific evaluations of aspects of the self in areas such as appearance, academics, athletics, and so on (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995; Woske & Baumgardner, 1993). However, domain-specific self-evaluations and global judgments of self-worth have distinctly different correlates; domain specific self-evaluations such as “I am good at math” predict behavior and performance (Eccles & Wigfield, 2002; Wigfield & Eccles, 2000), whereas global self-esteem predicts affect and well-being (Rosenberg et al., 1995). Indeed, global self-esteem strongly predicts the affective tone of daily experience, with high self-esteem people reporting more positive affect (Brockner et al., 1983; Pelham & Swann, 1989), more life satisfaction (Diener, 1984; Myers & Diener, 1995), less anxiety (Brockner, 1984; Pyszczynski & Greenberg, 1987), less hopelessness (Crocker, Luhtanen, Blaine, & Broadman, 1994), and fewer
depressive symptoms (e.g., Tennen & Herzberger, 1987) than people who are low in self-esteem. We believe that these emotional correlates of self-esteem motivate a great deal of achievement-related behavior; consequently, in our research we focus on global self-esteem.

State and Trait Self-Esteem
William James argued that global self-esteem is both a state and a trait. Specifically, people tend to have average levels of self-esteem that are “direct and elementary endowments of our nature,” (James, 1890, p. 43). This “average tone of self-feeling which each one of us carries about with him... is independent of the objective reasons we may have for satisfaction or discontent” (p. 43). On the other hand, James believed that state self-esteem rises and falls as a function of achievements and setbacks. As James put it, “...the normal provocative of self-feeling is one’s actual success or failure, and the good or bad position one holds in the world.” (James, 1890, p. 43, emphasis in original).

Contingencies of Self-Worth
James (1890) also argued that people select domains on which to stake their self-worth, concluding that “our self-feeling in this world depends entirely on what we back ourselves to be and do” (James, 1890, p. 45). In other words, people differ in the contingencies they must satisfy to attain high self-esteem. People have a contingency of self-worth when their global self-esteem depends on succeeding and not failing in some domain of endeavor. For example, self-esteem may depend on succeeding academically, being virtuous, or both. Taken together, these ideas suggest that state self-esteem fluctuates around a person’s typical level in response to successes and failures in domains of contingent self-worth (Crocker & Wolfe, 2001).

Previous tests of James’ insights examined whether the association between success in a domain and trait self-esteem depends on the importance the person places on the domain (e.g., Marsh, 1986, 1993, 1995; Pelham, 1995a, 1995b). These studies typically find that ratings of the importance of the domain contribute little. Our research differs from previous research in two major respects: first, we developed the contingencies of self-worth scale (CSWS; Crocker, Luhtanen, Cooper, & Bouvette, 2003b), which is related to, but distinct from, ratings of importance (Crocker & Luhtanen, 2003; Crocker, Sommers, & Luhtanen, 2004). Second, we examined whether contingencies of self-worth moderate fluctuations in state self-esteem around a person’s typical or trait level of self-esteem in response to successes and failures in the domain.
Empirical Tests

Contingencies of Self-Worth and Graduate School Admissions

We first put these ideas to the test in a study of college seniors applying to
graduate school (Crocker, Sommers, & Luhtanen, 2002). Thirty-two seniors
who had applied to Masters or Ph.D. programs completed a measure of
contingencies of self-worth. Then, for the next two months (from February
15 to April 15), they accessed a web page twice a week (and any day they
heard from a graduate school to which they had applied), completed a state
version of the Rosenberg (1965) self-esteem scale, a measure of affect, and
reported on contacts from graduate programs.

Hierarchical linear modeling (HLM) analyses revealed that contingencies
of self-worth predicted how much self-esteem increased on acceptance
days and decreased on rejection days relative to baseline days on which
students received no news from graduate programs. The predicted values for
students at one standard deviation above and below the mean are depicted
in Fig. 1. Only the school competency contingency, and none of the eight
other contingencies we measured, moderated both changes in response to
acceptances and changes in response to rejections. In addition, students' af\ective responses to admissions and rejections were stronger, the more
contingent their self-worth.

![Graph](image)

*Fig. 1. Expected State Self-Esteem for the Baseline, Rejection, and Acceptance
Days for Low and High Academic Contingency. Means are Plotted at 1 SD above
and 1 SD below the Mean of Academic Contingency.*
The specificity of the effect supports the view that fluctuations in self-esteem are not due to a general characteristic of contingent self-esteem but rather to the specific match of success and failures with a particular contingency of self-worth. This study thus supports the central hypothesis that state self-esteem fluctuates around its typical level in response to successes and failures in domains of contingency.

This study of students applying to graduate programs was based on a relatively small and select sample of 32 college seniors applying mainly to Ph.D. programs, whose self-esteem is highly invested in their academic achievements. Furthermore, admissions to and rejections from graduate programs represent rare, unusually important, and unambiguously positive or negative life events, unlike more routine academic events such as good or bad grades on exams and papers. To address these limitations, we conducted a study of the effect of good and bad grades during the semester on self-esteem.

Contingencies of Self-Worth and Responses to Good and Bad Grades

Instead of viewing grades as useful information about their progress, some students may interpret grades as revealing their value or worth as a human being because they stake their self-worth, in whole or in part, on their academic performance. Students whose self-worth is tied to their academic performance may be highly vulnerable to swings in self-esteem, affect, and feelings of belonging in their major, as a function of receiving grades that are better or worse than they expected. This vulnerability may be exacerbated for students who, by virtue of their ethnicity or gender, doubt their ability to succeed (Steele, Spencer, & Aronson, 2002).

To address these issues, a study of 122 male and female college students majoring in engineering or psychology examined whether good and bad grades on exams and papers are linked to changes in daily self-esteem and if so, whether academically contingent students' self-esteem fluctuates more in response to grades (Crocker, Karpinski, Quinn, & Chase, 2003a). Participants completed a pretest measure of contingencies of self-worth, then three times per week they accessed a web page and answered questions about their experiences that day. Specifically, students reported whether they had received any grades on exams or papers that day, whether the grades were better or worse than expected, and completed a "today" version of the Rosenberg self-esteem scale, and a measure of positive and negative affect.

As expected, HLM analyses revealed that students' self-esteem and affect dropped on days they received bad (i.e., worse than expected) grades, and rose on days they received good grades. The more students based their
self-esteem on academics, the more their self-esteem dropped and negative affect increased on bad grade days. A marginally significant 4-way cross-level interaction showed that students' gender, major, and academic contingency of self-worth (CSW) moderated the effect of bad grades on self-esteem. Women in engineering who were highly contingent on academics showed, by far, the biggest drop in self-esteem on bad grade days (see Fig. 2).

These two studies show that the more students base their self-worth on academics, the more their self-esteem and affect increase in response to positive academic events, and drop in response to negative events. Furthermore, the finding that women majoring in engineering, but not women majoring in psychology, showed the strongest effects suggests that students who feel marginal (because their race or gender is underrepresented) may be particularly susceptible. We now consider the implications of these findings for motivation and achievement.

CONTINGENCIES OF SELF-WORTH, MOTIVATION, AND ACHIEVEMENT GOALS

Psychologists have long hypothesized that self-esteem and academic achievement are linked (Wylie, 1979). Low self-esteem, in particular, has been invoked as an explanation for, or a contributing factor in poor school achievement (Dawes, 1994; Mecca, Smelser, & Vasconcellos, 1989; Scheff,
Retzinger, & Ryan, 1989). The self-esteem movement assumes that raising children's self-esteem, often through programs administered in schools, will not only improve school achievement, but also contribute to the solution of social problems (Baumeister, Campbell, Krueger, & Vohs, 2003; Dawes, 1994). Reviews of the literature, however, indicate that global self-esteem accounts for only a small portion of the variance in students' school achievement, and the causal direction of this relationship is often unclear. Critics of the self-esteem movement have suggested that the resources devoted to raising self-esteem in schoolchildren could more effectively be used in promoting basic academic skills that provide “warranted” self-esteem, grounded in actual accomplishments (Baumeister, 1999; Dawes, 1994; Seligman, 1998).

**Motivation**

We propose that the link between self-esteem and school achievement depends not on whether students are high or low in trait self-esteem, but on whether self-esteem is contingent on academics, and therefore rises in response to success and drops in response to failure. Students who stake their self-worth on academics have strong motivation to succeed and not to fail. As we have seen, the more students base their self-esteem on academics, the more they experience boosts in self-esteem and affect when they succeed, and drops in self-esteem and affect when they fail. Put simply, success feels good and failure hurts, and the more contingent one's self-esteem, the more pleasure associated with success and the more pain associated with failure. To obtain the pleasure of boosts to self-esteem, and avoid the pain of drops in self-esteem, students will strive to succeed and not fail.

Motivation stemming from contingent self-worth depends on what success and failure mean about the worth and value of the self (e.g., Deci & Ryan, 1995; Dweck, 2000; Grant & Dweck, 2003; Nicholls, 1984). Success means not only “I succeeded,” but also “I am a success,” and therefore “I have worth and value as a person.” In this motivational framework, the superordinate goal is maintaining, protecting, and enhancing self-esteem and positive affect; successful academic achievement is simply a means to the goal of high self-esteem and the good feeling it engenders (Crocker & Park, 2004).

**The Meaning of Success and Failure**

The first suggestion that academically contingent students interpret the meaning of events differently than do less contingent students came from
our study of students applying to graduate school (Crocker et al., 2002). At the beginning of the study, we asked students to write a paragraph about what getting into graduate school would mean for them or about them. The least contingent students wrote about how getting into graduate school would provide opportunities to learn and contribute in the future. For example, one low contingency student wrote, “It means that I have been granted an opportunity to gain the knowledge and skills I need to be a competent and successful researcher.” Another low contingency student wrote, “I don’t think of my possible admission to graduate school as necessarily placing a value on me “as a person” per se. I know that I have done my best work (for the most part!) here at U of M, and that I still have a lot more to learn and to contribute.”

In contrast, students who scored high on academically contingent self-worth wrote about what admission to graduate school would mean about their competence and how they are regarded by others. One highly contingent student wrote, “It would mean that I am truly a scholar. It would mean I’m intelligent, hard working, and a logical thinker. It would mean I can now be respected for being a good thinker.” Another wrote, “It means that my hard work payed (sic) off, and would mean that at least one grad school recognized that I am a brilliant and motivated student. In other words, it would reaffirm what I already know.”

Achievement Goals

As these quotations illustrate, students whose self-esteem depends on academic outcomes appear to interpret admission to graduate school as proof of their ability and competence. Students with less contingent self-esteem, however, seem more focused on learning and growth. We hypothesized that contingencies of self-worth may shape the nature of students’ achievement goals, fostering ability-validation goals more than learning goals.

Students with ability-validation goals strive to demonstrate their ability or avoid demonstrating a lack of ability by performing well on tasks (Grant & Dweck, 2003). Ability-validation goals can motivate students to work hard and do well under some circumstances (Grant & Dweck, 2003). In the face of difficulty, however, ability-validation goals predict loss of self-esteem, withdrawal, poor performance, loss of intrinsic motivation, and rumination about setbacks (Grant & Dweck, 2003). Ability-validation goals produce vulnerability to helplessness and debilitation after a setback or negative feedback, particularly when students doubt their ability (Ames & Archer, 1988; Elliott & Dweck, 1988).
We examined the association between academically contingent self-worth and ability-validation goals in a study of 199 first semester college freshmen. Participants completed a measure of academic CSW (Crocker et al., 2003b) and a measure of ability-validation goals (Grant & Dweck, 2003) early in their first semester of college. Academic contingency of self-worth correlated strongly with the goal to demonstrate ability. Moreover, academic contingency measured within the first three weeks of college predicted ability-validation goals at the end of the first semester, controlling for ability-validation goals at the start of the semester. In other words, highly contingent students increasingly focused on demonstrating their ability over the first semester of college.

Responses to Setbacks and Difficulty
Although basing self-esteem on academics may foster motivation and effort under many circumstances, some circumstances are particularly challenging to highly contingent students. Specifically, when confronted with very difficult tasks, highly contingent students will want to succeed and avoid failure, but may doubt their ability to do so, or achieving success may require a great deal of effort. When self-esteem and positive affect are the overarching goal, succeeding and not failing in domains of contingency are simply one of several possible routes to achieving the goal; other routes may be more direct, more reliable, or easier to traverse.

People often react to setbacks or failure in ways that diminish the impact on their self-esteem. For example, people may psychologically disengage or make post-hoc excuses, such as by finding someone or something to blame (Baumeister, 1998). These strategies for protecting and defending self-esteem should be particularly appealing when self-esteem is contingent on the domain of the performance (Crocker & Wolfe, 2001), because they serve the overarching goal of maintaining, protecting, and enhancing self-esteem. When people are motivated to protect self-esteem and affect, they will often do things to cushion the blow to self-esteem and affect when setbacks occur.

Social psychological research on self-handicapping, for example, shows that when failure is a possibility, people sometimes preemptively protect self-esteem by choosing to do things that interfere with performance. Although self-handicapping increases the likelihood of failure, it protects self-esteem by providing an excuse should failure occur (Berglas & Jones, 1978; Rhodewalt, Morf, Hazlett, & Fairfield, 1991; Tice, 1991). Consuming alcohol or other drugs that impair performance, listening to distracting music, going without sleep, or even becoming anxious or upset prior to
a task can all provide good reasons, or excuses, for a disappointing performance and hence protect self-esteem and affect.

This view is consistent with a great deal of research and theory on academic achievement motivation, which has long recognized that ego-involvement in academic tasks can undermine learning and achievement (Covington, 1984, 1992; Dweck & Repucci, 1973; Nicholls, 1984; Ryan & Connell, 1989; Ryan & Deci, 1989). In particular, Covington's self-worth theory of achievement motivation posits that students are often motivated to construct an image of themselves as smart and competent (Covington, 1992). By the age of 12, most children believe that the more effort a person puts into a task, the less successful performance says about the person's ability. On the other hand, when a person fails on a task, greater effort suggests lack of ability. Consequently, students with contingent self-worth will often withhold effort on difficult tasks, to protect or enhance their self-image as smart. Although this strategy may protect both their self-image as smart and their global self-esteem, it likely has costs for learning and achievement.

In sum, contingencies of self-worth can motivate and energize achievement behavior, but they can also lead to costly self-esteem protective strategies that interfere with performance, and with the ability to learn from one's successes and failures (Crocker & Park, 2004).

LEARNING ORIENTATIONS: REMEDY FOR CONTINGENT SELF-WORTH?

We wondered whether encouraging learning orientations might reduce vulnerability of self-esteem among highly contingent students, and reduce the cost of contingent self-worth for motivation and achievement.

*Do Learning Orientations Protect Self-Esteem among Contingent Students?*

We first examined whether incremental theories of intelligence reduce vulnerability of self-esteem among students who highly base their self-worth on academic competence. In a laboratory study (Niiya, Crocker, & Bartness, 2004), college students high and low on academic contingency were primed with the belief that intelligence was fixed (entity theory) or malleable (incremental theory). In the entity priming condition, participants
read a text which described intelligence as a fixed ability determined by heredity, whereas those in the incremental theory priming condition read a text arguing that intelligence depended heavily on environmental factors. Participants then took a GRE test on which they received either success (i.e., a score in the 97th percentile) or failure feedback (i.e., a score in the 49th percentile) and completed a measure of state self-esteem immediately after the feedback. In all of our studies, we measured participants' initial level of self-esteem and statistically controlled for it when examining posttest self-esteem.

Fig. 3 depicts posttest self-esteem in the different conditions of the study. Consistent with previous studies, self-esteem was lower following failure than success, particularly among highly contingent students. Moreover, priming of entity vs. incremental theories of intelligence moderated these results: performance on the test affected the self-esteem of highly contingent students when they were primed with entity theories (i.e., intelligence is fixed), but did not affect self-esteem of highly contingent students who were primed with incremental theories (i.e., intelligence is improvable). Priming of entity vs. incremental theories had no effect on the self-esteem of students with less contingent self-worth, who were relatively unaffected by the feedback in either case. The results of this study suggest that learning orientations, specifically incremental theories of intelligence, can reduce the
vulnerability of self-esteem to failure, especially among highly contingent students who are otherwise the most vulnerable.

In a subsequent study, we examined whether another type of learning orientation, mastery goals, also reduces vulnerability of self-esteem among highly contingent students (Niiya & Crocker, in press). Mastery goals, which focus on developing competence, knowledge, skills, and task mastery have been repeatedly shown to predict effort, challenge-seeking, and intrinsic motivation (e.g., Ames & Archer, 1988; Elliot & Church, 1997; Muehr & Midgley, 1991). In our study, participants completed the academic CSWS, the mastery goals scale (Elliot & Church, 1997), and a pretest measure of self-esteem, then took the Remote Associate Test (RAT) (McFarlin & Blascovich, 1984). In the RAT, participants searched for a word that best links a given set of three words (e.g., for dog, tree, and white the associate is house). We manipulated the difficulty of the test to create a subjective feeling of success and failure. In the easy RAT condition, participants received questions that were easy (e.g., shelf, read, cook: correct answer was book) whereas in the difficult conditions, the questions were more difficult (e.g., business, care, thought: correct answer was mind). As in the previous study, students who succeeded had higher posttest self-esteem than students who failed. However, as Fig. 4 shows, mastery goals eliminated the vulnerability of self-esteem among highly contingent students.

![Fig. 4. Mean Posttest Self-Esteem by Academic Contingency, Mastery Goals, and Test Difficulty.](image-url)
different task (i.e., a memory task). As Table 1 shows, among the highly contingent participants who took the difficult RAT, 27% of those who scored high on mastery goals chose to do the same task again, whereas none of those who scored low on mastery goals or those low on academic contingency chose to do so. This result indicates that highly contingent students tend to give up when they encounter difficulty, except those with high mastery goals.

These two studies show that learning orientations, whether incremental theories of intelligence or mastery goals, can reduce the vulnerability of self-esteem associated with contingent self-worth. But why do learning orientations protect contingent self-worth from the threat of failure? Dweck and her colleagues (Dweck, 2000; Dweck & Leggett, 1988) postulated that incremental theorists do not generalize their failure to their entire intelligence and to their global sense of self-worth as do entity theorists because they believe they can remedy the lack of ability in the future. These researchers argued that incremental theories reduce students’ concerns about proving their self-worth and cause their self-worth to become less contingent on academic outcomes.

There is however, another possible explanation for why learning orientations might protect self-esteem from failures. Learning orientations may not reduce highly contingent students’ concerns about their self-worth, as Dweck suggested. Highly contingent students, both high and low on learning orientations, may approach academic tasks with the goal of maintaining and protecting self-esteem; their learning orientations may simply alter the circumstances under which they infer that poor performance indicates their ability and hence their self-esteem. In the absence of opportunities to practice and invest effort, highly contingent students with incremental theories or mastery goals may maintain self-esteem because they can believe that their performance will improve with effort. If this was the case, practicing prior to difficult tasks may be highly threatening to their self-esteem because failure despite effort would indicate lack of ability.
Do Learning Orientations Combined with Effort Exacerbate Vulnerable Self-esteem?

Giving highly contingent students an opportunity to invest effort on a task should reveal whether learning orientations reduce concerns about self-worth or simply alter the circumstances under which failure threatens self-esteem. We conducted three studies to test this possibility. Surprisingly, all three studies suggested that learning orientations do not reduce self-worth concerns among the highly contingent students but simply sensitize them to the implications of effort and failure for ability and self-worth.

In the first study (Niiya & Crocker, in press) we measured college students’ academic contingency of self-worth, mastery goals, and ability-valuation goals at the beginning of the term and examined their state self-esteem immediately after they received their grades on a paper assignment that required much time and effort to complete. The study was similar to the previous two studies, in that we examined whether academic contingency of self-worth and learning orientations interact to predict state self-esteem following success or failure. The only differences were that this study involved a more naturalistic setting and a task that required effort.

Fig. 5 depicts the pattern of posttest self-esteem as a function of academic contingency, mastery goals, and grades. As in our previous research, we found a significant three-way interaction between academic contingency,

![Fig. 5. Expected Posttest Self-Esteem by Mastery Goals and Grade for Low and High Academic Contingency. Means are Plotted at 1 SD above and 1 SD below the Means of Mastery Goals, Grades, and Academic Contingency, Controlling for Pretest Self-Esteem. Note: *p < .05; **p < .01.](image-url)
mastery goals, and grades. However, in sharp contrast with our previous findings, highly contingent students who were high on mastery goals were more affected by their grades than those who were low on mastery goals or those who had less contingent self-worth.

Why was self-esteem of highly contingent-high mastery students so dependent on their grades? We speculate that highly contingent-high mastery students in our study may have been focused on demonstrating ability. Unlike the GRE or the RAT tests in our previous studies, students in this study were encouraged to spend time and effort working on the paper assignment. Students who base their self-worth on academics and are focused on task mastery had probably invested a lot of effort on the assignment, seeking to maximize their performance and believing that with effort, they could achieve good grade. This increased effort might have, in turn, accentuated the impact of failure for the highly contingent-high mastery students. Without effort, they can still hold on to their belief that with effort, they can succeed in the future. However, once they have exerted high effort, they can no longer attribute failure to lack of effort, and consequently, failure may directly signal lack of ability and self-worth. In other words, by investing extra effort, highly contingent-high mastery students in our study may have become more focused on demonstrating and proving competence, which might have exacerbated their self-esteem vulnerability to poor grades.

Although our study did not measure how much effort students invested on the assignment, we assessed their ability-validation goals at the start of this study. If our speculation is correct, ability-validation goals should account for the self-esteem vulnerability of the highly contingent-high mastery students. As Fig. 6 shows, mediation analyses suggested that, for the highly contingent students, ability-validation goals completely explained the relationship between mastery goals and grades on posttest self-esteem. In other words, the self-esteem of highly contingent-high mastery goals students fluctuated in response to their grades because students with mastery goals had high ability-validation goals. The finding supports the hypothesis that learning orientations do not reduce highly contingent students’ concerns about proving and demonstrating ability and self-worth; rather, they seem to exacerbate self-esteem vulnerability when highly contingent people invest effort prior to failure.

To further test whether investing effort prior to failure creates self-esteem vulnerability among highly contingent students with learning orientations, we conducted a second study in which we manipulated effort and theories of intelligence (Niiya, Crocker, & Brook, 2007; Study 3). Participants high and
Fig. 6. Mediated Moderation Model among Participants Who Scored above the Median on Academic Contingency: The Grade by Ability-Validation Goals Interaction Mediating the Moderation between Grade and Mastery Goals on Posttest Self-Esteem, Controlling for Pretest Self-Esteem. *Note:* βs represent standardized regression coefficients. β in parentheses represents the coefficient for the Mastery goals X Grade interaction with the Ability-Validation goals X Grade interaction entered into the regression equation.

...low on academic contingency were primed with entity (i.e., intelligence is fixed) or incremental (i.e., intelligence is improvable) theories of intelligence; half then had a chance to practice for 8 min prior to taking the Remote Associate Test, and half took the test without practice. The test was deliberately difficult so that all participants did poorly. Immediately following failure, we measured state self-esteem and attributions for the poor performance to internal factors (i.e., ability).

As depicted in Figs. 7 and 8, posttest self-esteem was lower, and internal attributions for failure were higher, among highly contingent incremental theorists who practiced, than among contingent incremental theorists who did not practice, suggesting that failure threatens self-esteem for contingent incremental theorists when they have invested effort. Less contingent students and students primed with entity theories of intelligence did not show this pattern. This study shows that learning orientations (in this case, priming incremental theories) do not reduce self-worth concerns among the highly contingent students; rather, they increase the vulnerability of self-esteem to failure when highly contingent students invest effort.

If highly contingent learning-oriented students are motivated to prove their self-worth and are sensitive to the meaning of effort for ability, they might protect self-esteem when they foresee a risk of failure by withdrawing effort (Rhodewalt et al., 1991; Rhodewalt & Tragakis, 2002). A third study tested whether highly contingent learning-oriented students engage in self-handicapping by reducing effort before a difficult test (Niiya et al., 2007;
Fig. 7. Internal Attribution of Performance (Adjusted for Perceived Difficulty of RAT and RAT Score) by Academic Contingency, Self-Theories, and Practice.

Fig. 8. Posttest State Self-Esteem (Adjusted for Pretest Trait Self-Esteem, Perceived Difficulty of RAT, and RAT Score) by Academic Contingency, Self-Theories, and Practice.
Study 2). As in several previous studies, we measured initial self-esteem and academic contingency of self-worth, and primed entity vs. incremental theories of intelligence. In this study, the dependent measure was how many items students practiced before taking the test. We manipulated students' expectations about the difficulty of the test by presenting them with easy or difficult sample items prior to the practice items.

Again, the results suggested that learning orientations do not reduce highly contingent students' concerns about proving their self-worth. As shown in Fig. 9, for the less contingent students, priming incremental theories of intelligence led to more practice before a difficult than an easy test. However, highly contingent students primed with incremental theories practiced less before the difficult than the easy test. In fact, when faced with a possibility of failure, highly contingent incremental students practiced as few items as the entity students. In other words, highly contingent incremental theorists actually withheld practice when they believed the test would be difficult, presumably to provide an excuse that would protect their self-esteem if they failed.

Although researchers have theorized that learning orientations reduce concerns about proving ability and demonstrating self-worth, our studies consistently show that learning orientations do not reduce highly contingent students' concerns about their self-worth and can even exacerbate the vulnerability of contingent self-esteem when combined with effort.
LEARNING-FROM-FAILURE GOALS

We propose that learning orientations, as currently conceptualized and measured, do not always alleviate the problems associated with contingent self-worth because people can aspire to learn and improve and simultaneously pursue self-esteem; learning can be a means to demonstrate ability and protect or enhance self-esteem. When people want to learn so they can demonstrate their ability and protect their self-esteem, other, quicker and easier strategies for protecting self-esteem, such as self-handicapping, psychologically disengaging, or blaming others will often have more appeal than exerting effort to learn.

Because current measures of learning orientations do not distinguish learning goals that are compatible with validating ability and pursuing self-esteem from learning goals that are incompatible with ability-validation and self-esteem pursuit, we sought to develop a learning goals scale that distinguishes the two (Niiya & Crocker, 2007).

Measuring Learning-from-Failure Goals

We theorized that learning-from-failure (LFF) often requires that people let go of pursuing self-esteem and proving their competence. LFF often requires acknowledging one's own contribution to difficulties or setbacks, admitting one's mistakes and taking responsibility for them, all of which may be difficult to do while simultaneously attempting to demonstrate competence and validate ability. Consequently, we hypothesized that people with LFF goals have less ego-involvement in performance than people with other types of learning orientations.

We defined LFF as the goal to use failure, setbacks, or criticism as a learning opportunity. We hypothesized that LFF goals represent a more effective remedy for contingent self-worth than mastery goals or incremental theories. In contrast, we hypothesized that people who strive to acquire knowledge can also have ability-validation goals and be ego-involved in learning, because acquiring knowledge can enable people to demonstrate competence, as proposed by multiple goals theorists (e.g., Barron & Harackiewicz, 2001; Covington et al., 1991; Meece & Holt, 1993; Pintrich, 2000). We defined knowledge goals as the goal of acquiring knowledge and hypothesized that they can be compatible with the goal of proving self-worth and consequently not an effective buffer to contingent self-worth.
To develop the new learning goals scale, we asked a total of 525 college students to respond to items assessing knowledge goals (e.g., "My main goal in my courses is to learn as much information as I can") and learning-from-failure goals (e.g., "Criticism is valuable because there might be something useful in it for me."). and other related scales (i.e., Elliot & Church's (1997) Achievement Goals Scale; Grant & Dweck's (2003) Ability-Validation Goal subscale; Crocker et al. (2003) Academic Contingency of Self-Worth subscale). Confirmatory factor analyses indicated that the correlated two-factor structure which distinguishes learning-from-failure and knowledge goals fit the data better than a one-factor model. The two-factor model generalized across gender and ethnicity, and remained invariant over three months.

Both knowledge goals and LFF goals correlated positively with mastery goals (Elliot & Church, 1997) and with incremental theories of intelligence (Dweck, 2000), suggesting that both scales reflect a learning orientation. Although LFF goals and knowledge goals positively correlated with each other, the new scale successfully distinguished learning goals that varied in their compatibility with the goal of proving ability and self-worth; knowledge goals correlated positively with performance-approach and avoidance goals (Elliot & Church, 1997), ability-validation goals (Grant & Dweck, 2003), and academic contingency of self-worth (Crocker et al., 2003a, 2003b). In contrast, LFF goals negatively correlated with all of these ego-involved measures, suggesting that LFF goals are incompatible with an ego-involved learning orientation. Mastery goals and incremental theories did not correlate with any of these ego-involved measures, suggesting that these traditional measures do not distinguish those who do and those who do not involve their egos in learning.

Learning-from-Failure Goals and Self-Esteem Vulnerability

Do LFF goals attenuate self-esteem vulnerability when highly contingent students practice and fail? Recall that incremental theories of intelligence and mastery goals attenuate self-esteem vulnerability in the absence of effort, but when contingent students have invested effort, their self-worth is actually more vulnerable to failure if they have mastery goals or have been primed with incremental theories. To examine whether LFF goals reduce the vulnerability of contingent self-worth better than knowledge goals, mastery goals, and incremental theories, we measured the academic contingency and learning orientations of 152 college students, who then practiced for a GRE analytical test (i.e., exerted effort) before taking
a difficult GRE test, which all participants failed (Niiya & Crocker, 2007). We measured state self-esteem both before and immediately after the test.

For participants low on LFF goals, higher academic contingency predicted lower post failure self-esteem. However, for participants high on LFF goals, academic contingency of self-worth was unrelated to post failure self-esteem. This interaction between academic contingency and LFF goals suggests that LFF goals attenuate self-esteem vulnerability associated with contingent self-worth following failure and practice. Knowledge goals, mastery goals, and incremental theories did not interact with academic CSW to predict self-esteem after failure and effort. This study supports the validity of LFF goals as unique learning goals; only LFF goals correlate negatively with measures of ego-involvement and only LFF goals attenuate the costs of academic contingency of self-worth on self-esteem following effort.

**Fostering Learning-from-Failure Goals**

Our initial research on LFF goals suggests that they can reduce vulnerability of self-esteem among students who base their self-worth on academics, even in the most ego-threatening circumstances - after investment of effort on difficult tasks. We next wondered why some students strive to learn from failure, whereas others do not. We hypothesized that the desire to contribute or support others provides a motivation to learn distinct from constructing an image of the self as competent or intelligent (Crocker, Luhtanen, & Niiya, 2006).

Whereas goals to construct self-images as smart or competent keep the focus on judging the self, goals to contribute or support others take the focus off of judging the self and onto what the self can give to others. Identifying, acknowledging, and addressing weaknesses or shortcomings can improve people's ability to contribute or promote the well-being of others. Students who want to be supportive or constructive may be willing to risk appearing unintelligent or incompetent so they can learn from failure, and hence contribute to something or someone they care about.

Consistent with this view, people are more receptive to self-threatening information when they write about their most important values (Sherman & Cohen, 2006). Writing about important values, typically relationships, induces positive, other-directed feelings such as love and empathy; these feelings, in turn, reduce defensiveness. For example, writing about an important value induces feelings of love in smokers, who are then less defensive about the negative health effects of smoking (Crocker, Niiya, & Mischkowski, 2007).
Similarly, we thought that students who want to be constructive or support others to learn would be more open to learning from their failures and setbacks, because this would enable them to better support others. Students in study groups, for example, might be more willing to explore their mistakes and failures if doing so will not only help them, but also help others in the group.

We examined links between chronically striving to construct a self-image as smart or competent (i.e., egosystem goals) and chronically striving to support others and be constructive (i.e., ecosystems goals) and changes in students' achievement goals in the first semester of college (Crocker et al., 2006). College freshmen completed measures of ability-validation and LFF goals at the start and end of their first semester. In addition, for the 10 intervening weeks, students completed weekly web-based surveys assessing their goals for academics. We hypothesized that chronic concern with constructing a self-image as intelligent would predict increased ability-validation goals from pretest to posttest, whereas chronic concern with supporting others would predict increased LFF goals.

As expected, students who reported chronically trying to get others to see them as smart or competent over the 10 weekly measurements increased in ability-validation goals and decreased in LFF goals from the beginning to the end of their first semester of college. The more students reported chronically trying to be supportive of others and constructive in academics over the 10 weekly measurements, the more they increased in LFF goals; changes in ability-validation goals were unrelated to chronic goals to support others. These findings suggest that students with clear goals to contribute, support others, or be constructive can develop LFF goals in the first semester of college. Taken together with other research we have described, the findings suggest that goals to support others may help students develop learning orientations that make their self-esteem less vulnerable to failure and encourage them to view failure and setbacks as learning opportunities.

FURTHER CONSEQUENCES OF ACADEMICALLY CONTINGENT SELF-WORTH

To this point, we have focused our attention on relatively direct consequences of basing self-esteem on academics for motivation and achievement. We would be remiss, however, if we did not consider other costs of basing self-esteem on academic achievement—specifically, the costs for mental health and relationships.
Mental Health and Psychological Well-Being

We have seen that basing self-esteem on academic achievements involves tradeoffs for motivation and achievement. On one hand, students with highly contingent self-esteem really want to succeed and not fail; on the other hand they may protect their self-image as smart and competent by withholding effort, disengaging, or making excuses when they are unsure that they can succeed. Perhaps this seems like a reasonable tradeoff; the downside of contingent self-worth is offset by the benefit of increased motivation.

However, students who base their self-worth on academics have a distinctly negative psychological experience, in spite of the occasional “highs” associated with success in domains of contingency. In our study of Goals and Adjustment to College, we asked 199 first semester freshmen to report weekly on various aspects of psychological well-being. The more students based their self-worth on academics (assessed at the beginning of the study, within the first three weeks of the first semester), the more they reported feeling stressed, anxious, depressed, low in self-esteem, lonely, and the more disordered eating behaviors they reported in the 10 weekly reports. Students’ academic CSW scores at the beginning of the semester predicted lower self-compassion at the end of the semester. All of these findings were statistically significant after controlling for students’ gender and tendency to respond in a socially desirable fashion.

In another study, we surveyed more than 500 students at the beginning, middle, and end of their first year of college (Crocker & Luhtanen, 2003). Students who reported basing their self-esteem on academics at the start of college reported more academic problems at the end of their freshman year. These problems included not only receiving grades that were lower than desired, struggling to meet own and others’ academic standards, and dissatisfaction with one’s abilities, but also disliking studies, lack of interest in courses, lack of time for leisure and sleep, financial problems, and conflict with teaching assistants and professors. Altogether, students who base their self-esteem on academics seem to have a quite unpleasant and unmotivating academic experience in the first year of college. Again, these findings held when we controlled statistically for gender, socially desirable responding, and a host of other individuals differences.

The fluctuations in self-esteem that students experience in response to good and bad grades when their self-worth is based on academics may further contribute to psychological problems. In our study of women and men majoring in psychology and engineering (Crocker et al., 2003a), we found that the more students based their self-esteem on academics, the more
their self-esteem dropped on “bad grade” days. Consistent with other studies (Kernis et al., 1998; Nezlek & Plesko, 2001; Roberts & Kassel, 1997), over time these fluctuations in self-esteem contributed to increases in symptoms of depression over three weeks, especially for students who were already low in self-esteem.

Contingent self-worth may contribute to the increasing prevalence of eating disorders, anxiety disorders, depression, and even suicide on college campuses. Furthermore, highly contingent students may attempt to regulate their distress with activities that temporarily disconnect them from negative emotions. Alcohol, drugs, video games, gambling, and other potentially self-destructive behaviors can all reduce the experience of distress in the short term, while increasing problems in the long term (Baumeister, 1991, 1997; Cooper, Asocha, & Sheldon, 2000; Cooper, Frone, Russell, & Muder, 1995).

Of course, feeling stressed, anxious, depressed, lonely, disinterested in courses, having conflicts with professors and teaching assistants, financial problems, and lacking time for sleep or recreation can further undermine students’ academic motivation, achievement, and even willingness to stay in school. Thus, many of the costs of basing self-esteem on academics may be indirect, but seriously undermine the quality of students’ lives as well as their achievement.

POLICY IMPLICATIONS

Using many different research methods, this research indicates that basing self-esteem on academics creates vulnerable self-esteem. Although students are motivated by the possibility of feeling worthless if they do not succeed, students with contingent self-worth often give higher priority to protecting their self-esteem than to accomplishing their academic goals. Their achievement goals focus on demonstrating competence and validating ability more than learning from setbacks and failures. What are the implications of this research for policy?

Foster the Idea that Failure is a Learning Opportunity

Our main policy recommendation for educators, parents, and students involves shifting from viewing failure and criticism as threats to viewing them as opportunities and gifts. Many well-intended educators, parents, coaches, and others want to protect children from the pain of failure.
Consequently, they avoid giving students direct feedback about areas in which they could improve, inflate grades, give every child a prize after athletic competitions, and generally try to avoid hurting students' feelings. Although adults take this approach with the best of intentions, we believe that by assuming that failure is painful and to be avoided, parents, teachers, and coaches inadvertently foster contingent self-worth and teach children to avoid failure. In these conditions, children become perfectionists, or they withhold effort to provide an excuse for failure, or they withdraw altogether from the activity.

Shifting one's view of failure and criticism from threats to opportunities, and even gifts, is no small task; indeed, it would represent a major cultural shift. We recommend that parents, teachers, and coaches practice making this shift in their own lives, and teach this approach by modeling it for children, rather than by lecturing them. Many children recognize hypocrisy when their parents or teachers admonish them to learn from failure but become defensive themselves at the slightest criticism.

There is an important, if subtle, difference between acknowledging failure and quickly trying to master a task so failure never happens again, and taking time to reflect on the many factors that contribute to both failure and success, and thinking about what can be learned from these experiences. Adults can help children learn to do this, again by modeling it. For example, after tripping and falling an adult could stand up and say, "I'll never do that again," or could sit and reflect, "I was in a hurry and preoccupied, so I wasn't really paying attention to my surroundings. I'd like to work on paying attention and noticing my surroundings, both because I don't like falling down, and also because there are many interesting things to notice about my surroundings if I pay attention."

Such thinking helped Courtney, who described her difficulty motivating herself to go to classes. After a semester of reflection on these issues, Courtney wrote:

For my last several years in school, I was here going through the motions, but that was it. After taking this class, I've really realized that I am afraid to fail and appear stupid, so I don't try and then I have an excuse. I was so worried about failing that I sabotaged my academic to the point where I did in fact fail, which is definitely something that I do not want to do. I am pleased to say that this time around, although I am no where near that perfect student who goes to all their classes and does all their homework, I am definitely making progress. Every time that I go to class and do homework, I am eliminating the possibility for an excuse if I fail and I am facing my challenge head on and in this moment giving it 100%. Although I still cannot say that I have given it 100%, I have done more homework, written more papers and learned and appreciated school more this semester than I have in years.
Foster Goals to Contribute and Be Supportive

Our research suggests that students are more likely to view failure as a learning opportunity and have the goal to learn from failure if they care less about constructing self-images as smart and competent and care more about how they can be supportive and constructive. A very simple recommendation, then, is to help students develop clear goals about what they want to contribute to others or to something outside themselves, even if it means they sometimes feel, or appear, incompetent or stupid. Again, we recommend that adults begin by practicing on themselves, articulating goals for what they want to create, contribute, or give rather than how they want to appear. It is important to stress that this does not mean sacrificing or martyring the self, but rather thinking about what course of action would be constructive for both the self and others.

This approach helped Alison, who wrote about not knowing what she wanted to do after graduation:

I have purposely kept myself from a career that I may be very fit for because I am afraid I will be rejected by graduate schools. I am so concerned for my self-esteem if I fail that I have totally avoided doing something I may be very good at. If I avoid certain careers that I fear I will fail in getting into, then other people will miss out on what I might be able to give to them. I am specifically interested in school psychology and I have been afraid of failing at getting into graduate school, so I have avoided it all together. I think this would be a field to which I have a lot to give. I love working with children. I love psychology, and I feel like it is a noble and important field in psychology since different things that inhibit the learning process trouble so many students. I believe I have a lot to give to these children and if I don’t pursue this field because I am afraid of failing, then those children will never get the help that I have to give.

Foster a Sense of Abundance, not Scarcity

Finally, we believe that contingencies of self-worth are associated with feeling scarcity, rather than abundance. Under conditions of scarcity, people feel that they must prove that they are deserving of scarce resources — more deserving than others. This focus on proving one’s merit, or deservingness, feeds and perhaps even creates contingent self-worth (Jambekar, Quinn, & Crocker, 2001). Unfortunately, in the United States, education and employment are often structured as a “winner takes all” system, in which only a few very high achievers are admitted to the most selective colleges and universities, get into the most prestigious and selective professional and graduate schools, and earn salaries many times what the average worker
earns (Frank & Cook, 1997). For example, the most prestigious colleges and universities have become increasingly selective in recent years, as numerous news reports attest.

Although the United States has increasingly become a country in which a small percentage of people earn a huge percentage of total income, it remains true that there are hundreds if not thousands of very good colleges and universities that admit all of the qualified students who apply, and there are many career options that offer people a comfortable, if not affluent, life. The feeling of scarcity fostered by the winner-take-all educational system and economy of the United States is more fiction than fact. It is simply not true that living a good life requires going to college at an Ivy League university, attending a prestigious graduate or professional school, and entering a profession in which one earns many times what other Americans earn. Furthermore, research suggests that people who aspire to fame and fortune are considerably less happy than those who aspire to satisfying relationships and contributing to their communities (Kasser & Ryan, 1993; Sheldon, Ryan, Deci, & Kasser, 2004).

Although parents and educators cannot control the selectivity of prestigious colleges and universities, they can increase students' awareness of the many educational and professional options available to them, and help them think about what sort of difference they want to make in the lives of other people. Doing so may help students (and their parents) shift from feelings of scarcity to feelings of abundance, and from anxiety about what they will get to inspiration about what they would like to give. Ultimately, such a shift may create motivational enthusiasm without the costs of contingent self-worth, and foster meaningful achievements.

REFERENCES


Contingencies of Self-Worth


