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Emotional and Cognitive Self-Regulation Following Academic Shame

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Choosing and striving for goals entail integrated systems of cognitive, motivational, and emotional processes (Oettingen & Gollwitzer, 2002; Op 't Eynde & Turner, 2006). Additionally, goal-striving requires sustained motivation and deliberate actions over periods of time (e.g., Ericsson & Charness, 1994; Turner & Goodin, 2008; Turner & Waugh, 2007). As goal-striving unfolds, one cognition-emotion link that may particularly derail one's goal-striving is the perception of failure and feeling shame, in part, because shame occurs with appraisals of global (i.e., "whole self") failure and lack of personal control (Lewis, 2000; Turner & Waugh, 2007). Despite the potentially debilitating effects of feeling shame, empirical evidence indicates that students may overcome this emotion and use it in facilitative ways (Turner, Husman, & Schallert, 2002; Turner & Schallert, 2001; Turner & Waugh, 2007). However, research has not revealed *how* students recover (or not) from shame experiences with respect to their cognitive, behavioral, and affective processes to resume their goal-striving or to shift their goal-striving.

Summary

In the face of shame, students may need to turn the global focus of their failures into more discrete behaviors that they can control. Instructors can facilitate this process by informing students of specific behaviors they can enact to support successful achievement, including study and volitional strategies. Students' use of multiple study and volition strategies can facilitate their self-regulation of stressful emotions and failure perceptions. These strategies provide students with options for controlling their learning. Study strategies provide students with multiple alternatives for connecting with course material while volition strategies provide students with multiple alternatives for boosting their motivation to engage in learning activities. Many entering college students are not aware of multiple learning strategies, particularly strategies needed for deeper processing, nor do they come to college with a repertoire of volitional strategies. Colleges and universities can identify common first-year classes, as well as major entry-level classes, in which instructors can incorporate class discussions about the use of multiple strategies to support students' learning and volition. Students should receive messages about the need to flexibly choose strategies to facilitate both short- and long-term goals. They also should be taught to confront failure by changing study strategies and/or initiating volition strategies. Instructors can show students how to use study strategies and volition strategies to help them become more engaged with course material to positively affect their academic achievement. Additionally, colleges and universities would do well to help instructors align their course goals, objectives, and assessments, thus eliminating the "guesswork" involved in students' study-related decisions.

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Of particular interest to our current research was the processes students use to maintain, increase, or decrease their academic motivation and self-regulation following experiences of academic shame. We sought to answer the question: What do students *do* once they perceive they have *failed* and feel shame? Additionally, because self-regulation is considered to be a "proactive" process (Zimmerman, 2008, p. 166), we were interested in answering the question: Do the processes students use to overcome feelings of shame (i.e., reactive processes) differ from *typical* academic self-regulation processes (i.e., proactive processes)? Using an exploratory, grounded theory approach (Strauss & Corbin, 1998), we investigated aspects of students' academic self-regulatory processes that facilitated or hindered their ongoing motivation and learning after they experienced shame in a difficult upper division psychology course—a course that for many of the students was instrumentally linked to their future academic and career aspirations. We anticipated that our results would lead to a better understanding of students' use of volitional strategies (i.e., effort regulation strategies to support motivation; McCann & Turner, 2004) and learning strategies (strategies students use to learn course information; Entwistle & McCune, 2004) with respect to their commitment to, or disengagement from, their future goals. Wanting to understand ways that students' academic self-regulation is dynamically connected to their self-regulation for attaining future goals, our research was framed by theories of (a) the emotion of shame, (b) self-regulation for attaining future goals, and (c) academic motivation and emotions. We briefly describe these three sets of literature below.

The Significance of Shame

Experiencing shame is founded upon an appraisal of personal failure. The reason this appraisal-emotional response has the potential to be demoralizing is that the failure is perceived to encompass the whole self and not a singular aspect of the self or a specific behavior (Lewis, 2000). When students experience

shame, they not only make an attribution of personal causation (e.g., "I caused this"; Weiner, 1985), but they make an attribution of complete failure and low self-worth (e.g., "I am a failure and an awful person"; Lewis, 2000). A person experiences low self-esteem with in-the-moment shame because the perceived failure is directly associated with personally valued standards, rules, or goals (Lewis, 2000). Most importantly, the appraisal focuses on one's *perception of failure*, not necessarily an objective failure. Indeed, when past research has controlled for students' actual grade, perceptions of failure, not the actual grade, predicted shame (Turner & Waugh, 2001, 2007). With a perception of failure for a valued standard, rule, or goal—at least within the moment of feeling shame—a person's self-view implodes (for a review of causes and consequences of academic shame, see Turner et al., 2002).

For advanced college students, other conditions also have been implicated in triggering shame. For example, previous research has demonstrated that the cognitive component of test anxiety (i.e., worry) and beliefs about one's inability to control learning may have predominate roles in predicting shame reactions to test feedback. Indeed, "when students who believe they control their own learning but worry about their ability to do well" subsequently "receive an unwanted grade that they consider to be a failure" they may consequently "experience feelings of shame" (Turner et al., 2002, p. 81). Additionally, different types of motivations have been associated with college students' shame. Specifically, students who are both extrinsically motivated for obtaining high grades and intrinsically motivated in the course content may experience shame when confronted with a perceived failure (Turner & Schallert, 2001). This combination may trigger shame when students who are pursuing intrinsically motivating goals must also obtain a high course grade to continue their goal-striving.

Given appraisals of global failure, one may not be surprised that "shame motivates an avoidance response" (Tangney, 1995, p. 1137). A number of educational psychologists have asserted that feeling shame can interfere with motivation and, commen-

surately, impact students' academic goals and achievement (e.g., Pekrun, Frenzel, Goetz, & Perry, 2007; Weiner, 1985). When students strive for future goals for which their educational attainment is instrumentally connected, appraisals of academic failure and subsequent feelings of shame may lead them to abandon their personal, future goals.

Self-Regulation and Instrumentality in Attaining Future Goals

Much of one's activity relates to his or her cognitions and emotions for pursuing personal goals. As Kruglanski (1996) explained, "Goals energize our behavior and guide our choices" (p. 599). Goal-striving processes require on-going planning, monitoring of progress, and evaluation of goal-related feedback. With goal-striving in mind, students understand their activities within a temporal context (Simons, Vansteenkiste, Lens, & Lacante, 2004). For example, as a student is working on an academic task, he or she may hold a memory of choosing a specific career while also envisioning the attainment of accomplishments toward that career.

Psychological processes that are involved in conceptualizing future possibilities, and making connections between those possibilities and current activities, is called *Future Time Perspective* (FTP). Having a strong FTP can support students' motivation to engage in instrumental educational activities and support their decision-making in ways that can lead to achieving long-term future goals (Simons et al., 2004). An action has instrumental value (i.e., *connectedness*; Husman & Shell, 2008) when a student recognizes that a current action has direct influence on the acquisition of an important future goal. If conducting an action is on a contingent path to a future, higher-order goal, the present action has instrumental value (e.g., Husman & Lens, 1999; Miller & Brickman, 2004; Raynor, 1981). In addition to providing a motivating function, holding a cognitive connection between current activities and future goals can serve a pro-

tective function for safeguarding goal commitments (Miller & Brickman, 2004; Simons et al., 1981). For our research purposes, we were interested in understanding how students interpret and use a perceived-failure and feelings of shame with self-regulating for goal-attainment.

Self-Regulation of Goal Striving

A student's self-regulation for goal-striving incorporates goal-setting and goal-commitment (e.g., Oettingen, Pak, & Schnetter, 2001) with self-monitoring, self-evaluation, and self-reactions (e.g., Bandura, 1986, 2001; Kanfer & Kanfer, 1991). Once a student moves beyond having a pleasurable fantasy of a goal to considering and planning the course of actions needed for obtaining the goal, self-regulation for goal attainment ensues (Bandura, 1997, 2001; Corno, 2001; Gollwitzer & Sheeran, 2006; Oettingen, 1996; Oettingen & Mayer, 2002; Oettingen et al., 2001). As described below, self-regulation of one's motivation, affect, and behavior for goal attainment is governed by three overarching self-referent functions: self-monitoring, performance monitoring, and self-reactions (Bandura, 1986, 2001).

Self-monitoring directs cognitive attention to goal-relevant cues. Having goal-commitment induces automatic attunement for goal-relevant information (Ferguson & Bargh, 2004). Individuals may receive direct information through specific performance feedback (e.g., receiving a course grade) but also may obtain information through indirect methods such as comparing themselves to others who are in a similar situation (Bandura, 1986, 2001).

Performance monitoring is the comparison of current behavior with behavior needed for goal attainment. Goal-striving initiates discrepancy-reduction actions (through proactive implementation intentions) to bring about an outcome that has not yet been realized. Discrepancy reduction acts as a quality-control mechanism for guiding and constraining behavior for the purpose of goal attainment. Therefore, "reactive feedback control comes into

play in subsequent adjustments of effort to achieve desired outcomes" (Bandura & Locke, 2003, p. 91).

Self-evaluation affects motivation through self-reactions (Bandura, 1986; Kanfer & Kanfer, 1991). Bandura's (1986, 2001) social cognitive theory proposed two distinct classifications of self-reactions: (a) *self-satisfaction or dissatisfaction* and (b) *self-efficacy* expectations. Reactions of self-satisfaction or dissatisfaction are based on affective reactions to outcomes. "Humans react self-critically to performances that are deficient or that violate their personal standards and react with pride and self-satisfaction when they attain what they value" (Bandura & Locke, 2003, p. 94). Although self-reactions are reactive processes, they can have motivating, proactive power when individuals self-reflect—considering outcomes and possible actions (Bandura, 2001). Contrary to reactions of self-satisfaction or dissatisfaction that are related to outcomes (i.e., the past), self-efficacy expectations are self-reactions about judging one's capabilities of moving forward—organizing and executing behaviors that will lead to goal attainment in the future. Appraisals of self-reactions and self-efficacy judgments can involve complex processes linking additional emotions and motivations, particularly for emotions that are self-reflective such as pride, shame, and guilt. Pekrun's (2000) Control-Value theory is particularly useful for understanding these complex interactions.

Academic Emotions, Motivation, and Self-Regulation

Motivation does not happen in an emotional vacuum. Indeed, "some sort of affect accompanies most cognitive events; affect is a by-product or antecedent to motivational processes such as goal setting and images of possible futures" (Corno, 2000, p. 660). Reciprocal processes of students' affects, motivations, and cognitions are foundational to Pekrun's Control-Value theory of academic motivation and emotion (2000; Pekrun et al., 2007). Control-Value theory proposes that students' control-related

and value-related appraisals of academic tasks and outcomes are the main sources of their academic emotions and motivations. Pekrun (1992) asserted there are three categories of emotion, based on the time frames during which emotions impact motivation and learning: (a) process-related emotions that happen during a learning task (e.g., enjoyment, boredom), (b) prospective emotions that are anticipated with respect to future outcomes (e.g., hope, anxiety), and (c) retrospective emotions that happen after task completion (e.g., pride, shame). Additionally, because of reciprocal relationships among emotions, motivations, and cognitions, each component may affect the others. These reciprocal processes occur through time, and hence, connect with the timeframe of focus—process-related emotions, prospective emotions, and retrospective emotions. Because emotions and motivations may fluctuate, students may find they need to use strategies—volitional strategies—to quell negative emotions and to boost goal-striving motivation.

Volitional Self-Regulation for Quelling Negative Emotions and Low Motivation

Students may encounter negative emotions (e.g., anger, sadness) and motivational difficulties when they must engage in academic tasks that require a delay of gratification for more attractive, immediate alternative activities (Bembenutty, 2008; Bembenutty & Karabenick, 2004). Striving for proximal academic goals (e.g., doing well on an upcoming exam) in service to distal aspirations (e.g., obtaining an academic degree for a future career) requires delays of gratification, sustained motivation, and effort regulation over long periods of time. Additionally, students may encounter motivational setbacks when they experience difficulties or negative emotions related to difficulties. "Even those who are planners—prioritizing goals and progressing through tasks—can be thrown off course when the sailing gets rough and clouded by difficulties or self-doubts" (Corno, 2004, p. 1670).

Recent research has focused on developing a deeper understanding about the processes students use to initiate and maintain their study-focus (Corno, 2004; Husman, McCann, & Crowson, 2000; McCann & Turner, 2004; Schallert, Reed, & Turner, 2004). Investigations into this aspect of self-regulatory efficiency have documented students' active attempts to maintain or enhance their motivation through the use of various *volitional* self-regulatory actions. Volitional strategies support students' motivation similarly to ways that learning strategies and self-regulation of learning activities (e.g., planning, monitoring understanding) support their learning (Corno, 2004; Husman et al., 2000; McCann & Turner, 2004; Snow, Corno, & Jackson, 1996). Therefore, volitional strategies may work in tandem with students' academic self-regulation processes. For example, by using approach or avoidance self-talk (e.g., supporting self-efficacy by reminding one's self of past successes or thinking about the outcomes of potential failure) as well as anxiety-reducing strategies (e.g., relaxation techniques such as deep breathing or listening to calming music), students garner the motivation they need to get on track or stay on track. Using volitional strategies to support their motivation, students' cognitive engagement with course materials can be initiated or maintained (e.g., Heckhausen & Kuhl, 1985; McCann & Turner, 2004).

With the research we present here, our research questions were: (a) With respect to academic achievement, when students perceive they have failed and experience shame, how might they reorient themselves to get back on track, and (b) When students overcome experiencing shame, how do they dynamically accomplish this self-regulation?

Method

Subjects were recruited from an upper division course in psychopharmacology within a large, Midwestern university. The instructor of the course, a well-established professor of neuroscience (who had received teaching awards), reported (through

personal conversations) that the course often had been difficult for students. Of the 126 students who received final grades for the class, 106 students completed questionnaires upon receiving test feedback from their first midterm exam (a necessary condition for inclusion in the study). Of 25 students who reported experiencing shame, 8 students (1 male, 7 females) participated in semistructured interviews (see *Interview Participants*) 2 weeks before the end of the semester.

Procedure

As part of a larger motivation and emotion study (Turner & Schallert, 2001), students completed questionnaires on the first day of class to assess their future goals, motivational characteristics, and their perceptions regarding the importance of their final course grade for obtaining future academic or career success. Students also were requested to provide their phone numbers if they were willing to participate in an interview about their ongoing motivation and emotions of class experiences. Five weeks and 9 weeks into the semester, after obtaining feedback on their midterm exams (Exam 1, Exam 2), students completed a survey to determine if they experienced shame.

Assessing Shame

The Experiential Shame Scale was used to assess shame reactions (Cronbach's alpha = .86; Turner, 1998; Turner & Waugh, 2001, 2007). This self-report measure contains 11 semantic differential items for three components: physical ("Physically I feel: Flushed—Pale"), emotional ("Emotionally I feel: Pleased—Displeased"), and social ("Socially I feel like: Hiding—Being Sociable"). A final item asks students how much they would be willing to discuss their grades with an acquaintance (1 = *strongly disagree*; 7 = *strongly agree*). Scores for shame are summed and averages obtained.

Interview Participants

Twenty-five students indicated they experienced shame after receiving Exam 1 feedback. After receiving Exam 2 feedback, the initial shame-experiencing students were placed into one of the following categories: (a) those who received a higher Exam 2 score (eight points or more) and did not experience shame, (b) those who received an almost identical Exam 2 score but did not feel shame, and (c) those who received an almost identical Exam 2 score and experienced a second shame reaction (only one student was in this category).

Of the 25 students who had indicated experiencing shame after Exam 1, only 8 students agreed to be interviewed. The number of students in each category were: 3 students who *increased* their Exam 2 scores, and 4 students who received almost *identical* Exam 2 scores but did not experience shame about their second scores. Additionally, 1 student who received an almost identical Exam 2 score and experienced a second shame reaction was interviewed. After including final exam scores, this student received the second highest final exam score in the class. Her interview comments were aligned with the comments of other self-regulating students (i.e., those who raised their Exam 2 scores). For a description of her individual success story see Turner et al. (2002).

Two weeks before the final exam, the 8 students participated in a flexible, semistructured interview that allowed students to tell their personal stories about their emotional and motivational experiences throughout the semester and the volitional and study strategies they used throughout the course. The same researcher conducted all individual interviews, which were tape-recorded and transcribed verbatim.

Data Analysis

To conduct a grounded theory analysis, researchers systematically examine a specific psychosocial phenomenon, seeking to determine the nature of underlying processes. The goal

of a grounded theory analysis is to build a theoretical model, grounded in participants' descriptions. In this process, all interviews are considered as a stream of data. While analyzing the full stream of data, categories and properties of the phenomenon emerge. The intent of the analysis is to account for the full data stream within a model. Because a grounded theory analysis uses the entire data stream, "outliers" are used that might be eliminated or dismissed in statistical analysis. Therefore, the model does not show strength of categories, but proposes a framework that subsequently can be used to test the strength of associations.

Grounded theory methodology involves several distinct facets (Waugh, 2003): (a) *open coding* occurs in which data "are broken down into incidents to be closely examined and compared while constantly asking of the data the neutral question 'What category or property of a category does the incident indicate?'" (Glaser, 1992, p. 39); (b) coding of incidents for theory-relevant concepts and interrelationships (Dey, 1999) through "constantly comparing incident to incident and incident to codes" (Glaser, 1992, p. 32); (c) higher order integration of categories and properties (Glaser, 1978, 1992; Glaser & Strauss, 1967; Strauss & Corbin, 1998); (d) formulation and integration of an empirically grounded theory that explains the phenomenon; and (e) concludes with the refinement and description of the theoretical model, after the examination has reached theoretical saturation (i.e., examination of additional data results in no change in the theory's concepts, structure, and hypothesized interrelationships; Glaser, 1978).

The credibility and trustworthiness of using a grounded theory approach

> does not depend on obtaining consensus on a correct interpretation of the data. Rather, the research is trustworthy to the extent that (a) the data are as factually accurate and complete as possible, (b) the interpretations capture the participants' meanings while minimizing researcher bias, (c) the categories fit with the phenomena under study and elucidate the relationships between concepts in the data, and (d) the theory is transferable (i.e.,

> it makes sense to the reader and can be applied to persons, times, and settings other than those studied; Glaser, 1992). (Van Vliet, 2008, p. 236)

Following the procedures set forth for grounded theory analysis (e.g., Strauss & Corbin, 1998), the initial analysis included *open coding*—the act of reading transcripts while identifying and coding incidents (i.e., words or phrases) for connotation of micro-segments. This is an iterative process. For example, the phrase "It's like a slap in the face" would be identified as an incident having descriptive importance. Across several readings of the data, incidents are given *codes* (e.g., "It's like a slap in the face" may be given the code of "example of shock").

Looking across the interviews, codes are then grouped into *categories* (e.g., "feeling shock" may be placed in a category "reactions to exam grade"). Throughout the process of categorizing interview segments, high-order categories emerge (e.g., "reactions to exam grade" may be placed in a higher order category of "goal-relevant information"). Throughout the processes of analysis, *theoretical saturation* occurs, whereby all data is integrated (*theoretical integration*) and the categories and subcategories are linked, becoming the model that reflects the interrelations of the emerged concepts (e.g., goal-relevant information leads to self-assessment).

Results

Students' descriptions of their thoughts, feelings, and behaviors following exam feedback and shame (*performance feedback*) highlighted the influence of (a) *ongoing conditions*, (b) *immediate appraisals,* and (c) *evaluation and assessment* on students' subsequent *response paths* and next *performance evaluation*. The outcomes of the grounded theory analysis resulted in the construction of the model presented in Figure 1 titled Dynamical Systems Perspective of Students' Characteristics, Emotions, and Goal-Striving Regulation Within a Cycle of Academic Evaluation.

The following sections illustrate students' descriptions of their unfolding trajectories following their shame experiences.

Ongoing Conditions

As the box across the top of the model displays, all students entered the course with their own unique knowledge and skills (e.g., history of academic success and failure, prior content knowledge, note-taking skills), goals and values (e.g., reasons for taking the course, future and academic goals, motivational goals), and their current appraisals and emotions (e.g., perceived difficulty of the course, anxiety). These conditions continued to affect, and be affected by, students' self-organization throughout the course of the semester. The importance and strength of each variable's influence on students' consequences following their shame reactions cannot be determined in this study; however, our results suggested these variables influenced students' dynamics and trajectories (through time) following students' shame (see Figure 1).

Causal Condition, Immediate Appraisals, and Concomitant Emotions

Our investigation focused upon the processes subsequent to students receiving their exam feedback and associated shame reactions. As described in goal-striving and self-regulation theories (e.g., Zimmerman, 2000), students' shame reactions were detected when they received exam feedback—information that was relevant to their goals and expectations. Students in our study described ways in which the exam feedback was discordant with their personal expectations and was related to self-reactions of shame. For example, with respect to students' expectations, several of the students expressed how the grade did not fit their self-images, academic standards, expectations, or past successes. One student explained why her grade contradicted her expectations, saying, "I felt super-motivated at the beginning [of the semester] because I did really well last semester; and I felt like

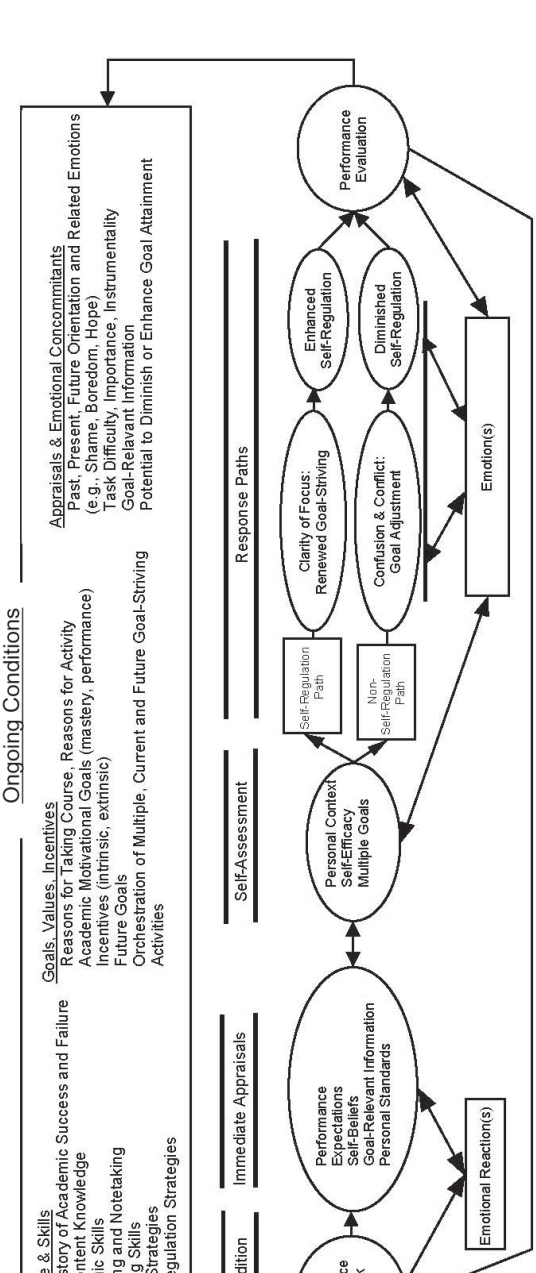

Figure 1. **Dynamical systems perspective of students' characteristics, emotions, and goal-striving regulation within a cycle of performance evaluation.**

'this is it! . . . I'm going to get my GPA up so high that I'm not even going to have to worry.'"

Interestingly, none of the students described the test or the instructor as unfair; however, all of the students described the dissonance between their efforts in preparing for the exam and the grades they received. One student described the dissonance between his effort in preparing for the exam, his confidence upon leaving the exam, and his ultimate exam grade.

> I thought I studied enough to do well in this course, and more than that, I thought I had done really well on the test. Nothing on the test was out of left field to me. . . . I actually thought that I had made a 90 or better when I left that test. When I got it back and I saw I had made a 70, that's when it really freaked me out.

Additionally, 3 of the students described concomitant emotions. For example, when asked if she remembered any thoughts or feelings from seeing her grade, one student replied, "I was pretty shocked." Another student offered, "I was really disappointed, too. I was sad." A third student explained, "I got really scared, and that's why I felt really bad. . . . I felt really scared."

Self-Assessment

Taking into consideration the level of effort and the strategies they had used, all of the students expressed ways in which they were required to assess, evaluate, and weigh their personal abilities, circumstances, and options. *Self-assessment* was a critical phase, because the outcomes appeared to define the dynamic trajectory of subsequent cognitions, behaviors, and learning.

Considering Personal Context

All of the students described their personal contexts in which they had to weigh the perceived effort needed for higher achievement with other activities and priorities. Two of the stu-

dents talked about ways their employment hours and coursework loads interfered with the effort and time they could devote to this particular class. One student explained:

> [On] Tuesdays and Thursday, I have class until 5:00. I go straight from 9:30 until 5:00 . . . and in the class right after [this class] I have a one-page paper due. . . . I'm really bogged down with my classes. . . . I think that if I would have had this course when I took a lighter load, . . . I may have had more time to devote to it.

On the other hand, during their self-assessments, self-regulating students (those who were able to raise their grades) considered their important future goals that were instrumentally connected to the course grade. For these students, their future goals seemed to contain powerful incentives for persistence. One student described trying to be admitted into a competitive academic program that was instrumentally linked to participating in a family-owned business, explaining "Long-term financial [gain] is the core . . . and we're not talking about a 30 thousand-dollar-a-year job, either; we're talking about millions of dollars . . . It all rides on whether I can make a *B* in this course."

Because of her goals and standards, another student considered alternative options for goal-protection. She explained:

> I graduated in December with a double major in [psychology] and [mathematics]. I was taking this class because I had always wanted to take it. . . . I didn't do so hot on the first exam . . . [so] I changed the [grade] to pass/fail because I have a 4.0 as far as my "psych major." I didn't even want to get a *B* in this class because then I wouldn't have a 4.0.

She wanted to protect her grade point average (GPA) because she was applying to graduate schools. Believing that graduate school is "so competitive," she did not want to risk lowering her GPA for a class she was taking for personal interest.

Self-Efficacy Assessments

After receiving their Exam 1 feedback, students described assessing their abilities to obtain a higher grade. For ineffective self-regulating students (those who did not raise their grades), this self-assessment process seemed to evoke questions about their abilities to raise their current grades—thus questioning their self-efficacy. For example, one student explained:

> I took really good notes. I audio-taped the class. . . . When I have the patience to concentrate while I'm driving, I'll put a tape in and listen to it. [I] did all my reading, went over my reading very thoroughly—I just don't know what else I can do.

For students who were able to effectively self-regulate after Exam 1 feedback, they described how their self-assessments did not undermine their self-efficacy; but instead, stimulated their determination. One student remembered ruminating during the lecture following the feedback, thinking, "What am I going to do? What do I *have* to do? I cannot fail this class."

Response Paths

Data analysis revealed that the outcomes of students' self-assessments initiated paths of cognitions, levels of motivations, and academic-related behaviors. At this point, students began to embark on paths of academic self-regulation or nonregulation, heading toward their Exam 2.

Self-Regulation Characteristics

The 4 students who took the *self-regulation path* could be characterized as having "clarity of focus." They described how their current grade was perceived as unacceptable and they were energized to obtain higher course grades. Because they had personally important future goals, self-regulating students talked about con-

necting their current situation to their futures. For example, one student explained, "Well, . . . [because of] the long-term repercussions of succeeding, . . . at this point I don't really have a choice."

To facilitate their goal striving, self-regulating students explained how they made rapid, conscious decisions to pursue a higher grade with increased effort. One student explained how, after leaving the class, she told herself, "I'm going to have to approach it differently because . . . it was my fault. I need to take responsibility for it and see what I can do about it."

Non-Self-Regulating Characteristics

The 4 students who took the *non-self-regulating path* were characterized by confusion and conflict. Although many of these students talked about having future goals such as going to graduate school, they were not clear about the specific topics and were not able to make a connection between the course and their futures. For example, one student talked about her "need to raise her GPA" because she "needed to get into graduate school." However, when asked if she knew the program she intended to pursue she replied, "No, not really . . . I've always wanted to do something with children."

Self-Regulation Processes

The response paths of self-regulating and non-self-regulating students appeared to diverge dramatically in relation to their ability to regulate their efforts (i.e., use of volitional strategies for self-regulation of motivation) and their approaches to studying (i.e., use of study strategies for self-regulation for learning). Analysis suggested that paths emerged as a result of students' self-assessments of their perceived ability, circumstances, and available options.

Effective Self-Regulation

Volitional strategies. The 4 self-regulating students provided examples of using both positive (approach-based) and negative

(avoidance-based) self-talk to keep themselves on track; however, they provided more emphasis on positive thoughts than on negative self-talk. For example, they reminded themselves of how poorly they did on the first exam, but they would also use thoughts of their future goals to protect their goal-striving efforts. When asked if she ever thought about the first exam while studying for the second exam, one self-regulating student replied:

> Well, I remember thinking about how poorly I did on the first test and how I need[ed] to succeed on the second test to pull my average up. That in itself was enough motivation, I suppose, to say, "Hey, I better get on the stick here and do better."

Self-regulating students also described how they used positive self-talk as a volitional strategy to bolster their self-efficacy beliefs, although it is interesting to note that two of the students' comments also demonstrated a view of intelligence as fixed and not malleable (e.g., Dweck & Leggett, 1988). These students explained that they told themselves statements such as, "I know I can do it. I'm not dumb." One student explained, "I know I have the potential. I know I have the intelligence to succeed. The motivation is there, it's just trying to tie those things together and do it."

The self-regulating students' interviews provided examples of how they used volitional actions to boost their motivation. For example, one self-regulating student explained:

> That evening, I put up a piece of paper [which I wrote on] with a red marker, "Failure is not an option." I had just seen *Apollo 13* two or three weekends before and that was one of my favorite lines [from the movie] . . . So I put it right there; [on] the wall across from the bed. When I wake up in the morning, that's the first thing I see: "Failure is not an option."

Study strategies. In addition to using volitional strategies, all of the self-regulating students described committing energy

toward approaching their studying in ways that were different than they had for the first exam. One difference was to increase the number of study strategies they used. For example, one student explained:

> I did more things. I studied harder . . . [like] trying to stay up with the reading and trying to just be a better student—going through the notes afterwards, trying to do the right things, making flash cards, testing my knowledge, writing things down.

Perhaps, most importantly, all of the self-regulating students talked about making "connections" with the material when they studied. For example, in talking about the way he approached his studying for the second exam, one student said that he tried "to relate what's in the notes and what's in the book." When asked if she studied differently after the first exam, another explained:

> I approached it a lot differently. I started thinking a little bit differently. I guess I started utilizing my father (a pharmacist) a lot more, talking to him about what I had just read, [or heard in] . . . the lecture. . . . [Then] I started putting all the pieces together.

In addition to using her father as a resource, this student also started applying the information to herself, explaining, "I came from the aspect of 'this is how it affects *me*.'"

As the self-regulating students came to class to take Exam 2, 3 of the 4 students mentioned that they felt anxious or experienced lowered confidence. However, as these students progressed through the exam, they described how they gained confidence when they determined that they had adequately prepared and they knew the answers. One student explained, "I didn't feel very confident . . . on the second exam because I felt that anything could be asked. That frightened me . . . Once I saw the questions, [I said to myself] 'I know I can do it.'"

Most likely, due to the increased use of strategies and the use of strategies that facilitated deeper learning, self-regulating students obtained higher grades on their second exams. Receiving their Exam 2 feedback initiated another cycle of self-assessment and response paths. For the self-regulating students, they explained that obtaining higher exam scores brought feelings of relief and assessments of increased self-efficacy; one student explained, "When I made a '*B*' on the second one . . . I felt a whole lot more relieved because I knew I could do it."

Heading toward the final exam. As the self-regulating students approached the final exam, they described how they continued to use the strategies that they had used successfully for the second exam. One student explained, "I feel better because I know that the way that I studied seemed to have worked, and I'm doing the same thing. So I'm more confident."

Self-Regulation Processes: Lack of Regulation

The 4 non-self-regulating students seemed to experience conflict between knowing that they needed to study and then not being able to follow through with effective actions. Some of the non-self-regulating students talked about trying to exert more effort (i.e., use strategies, spend more time studying) but not being able to sustain their efforts. One student explained:

> I was really determined to do a lot [of studying], determined to use different methods in studying for the next test. I thought about different things that I was going to do and do them from the very beginning. . . . Like I wanted to meet with [friends] every week so I [could] know from the very beginning that my notes are in accordance with everyone else's . . . and then I thought, "If I review every week in addition to that, then keep on-task with the readings and make outlines as we're going through the weeks, then it will be a lot easier." I tried to do that. It didn't work successfully, though.

Lack of volitional strategies. Comments from non-self-regulating students suggested they had little volitional self-regulation. They experienced difficulty garnering both effort and self-efficacy needed to initiate their studying or to sustain their studying. For example, when probed for elaborations about her intentions to review every week, one student described her waning motivation:

> Actually I did more in the first 2 weeks, when I had that anxiety. I would go through more of a set schedule [to] go through my notes. [I] was more meticulous [in] studying. Then, as the weeks progressed . . . I kind of slacked a bit.

Analysis revealed that non-self-regulating students tended to have difficulty initiating or sustaining their energy for studying. One student mentioned, "I was almost sort of afraid to study for [the second exam]. It was like this: I knew I had to study for it. The book would just be sitting over there and [I'd think] 'let me do something else.'"

Non-self-regulating students' intentions seemed to be stalled because of their lack of (a) future goals that connected instrumentally with the course, (b) volitional strategies, and (c) self-regulation for learning. One student summarized the difficulties, explaining:

> I told myself to approach my studying differently and better, but I did not practice it. My study time went way down. I don't know if it was because I was disillusioned or because it was just the work was building up in other classes, too. [But] my thoughts and feelings were completely different from my actions.

The likelihood of non-self-regulating students becoming cognitively engaged in the course material was consequently hindered. When non-self-regulating students did study, they tended to use the same passive, surface-level strategies that had not worked well for them in preparing for the first exam. They

did not seem to have a repertoire of study skills from which to draw. For example, when questioned about how she prepared for the second exam, one student said, "I just continued doing what I was doing earlier, . . . I just read and I recopied my notes after every class. When I had the time, I would go through my notes and just look over the material."

In addition to using surface-level learning strategies, some non-self-regulating students indicated that they were unable to conduct effective planning. One student's explanation suggested that the lack of effective self-regulation and study strategies was related to her lack of self-efficacy:

> I guess for the next test, not only was it in the middle of the semester so I was starting to get burned out, but I was a little disillusioned, thinking I probably wasn't going to do well on this one either. So I didn't study nearly as hard and my grade showed that.

Most likely, due to the decrease in study time and the use of learning strategies that did not facilitate deeper learning, non-self-regulating students did not obtain higher grades on their second exams. They either received a similar grade or received a lower grade. Receiving their Exam 2 feedback initiated another cycle of self-assessment and response paths. Interestingly, the survey data demonstrated that, although these students received scores similar to their first exam scores, they did not experience a second shame reaction. This finding suggests that the non-self-regulating students lowered their grade-goal expectations, a form of secondary-control (Heckhausen & Schulz, 1995). By choosing to lower their overall expectations, students may have protected their feelings of self-worth (e.g., Covington, 1992).

Heading toward the final exam. Students' feelings about their final exam grade could be characterized as discouragement. One student explained:

> I was disappointed and I guess I didn't have as much faith in myself anymore because I thought, at the beginning of

> the semester, "You did so good last semester." And [then] . . . I was a little disheartened. Once that happened, my positive emotions went down a lot.

In addition to feeling "disheartened" and having lower outcome expectancies, non-self-regulating students also described how they had fewer positive feelings about attending classes. For some students, heading toward the final exam meant "going through the motions." One student explained:

> I go to class because I have to go to class and I've got to take the notes and I've got to study and I've got to get the best grade that I can get for the class. It's not really a pleasure kind of thing like it was at the beginning [of] the class.

For the non-self-regulating students, they described difficulty with gathering effort for studying for the final exam. One student explained, "I think I just really don't want to think about it because I expected more from myself in studying for the second exam, and I didn't accomplish those goals." Non-self-regulating students described how they continued to use the strategies they had used unsuccessfully for the first and second exams, and not surprisingly, they received similar or lower final-exam scores.

Discussion

The purpose of our current exploratory analysis was to initiate a deeper understanding of dynamics involved in students' shame experiences and subsequent recovery. We sought to reveal students' cognitive, emotional, and motivational processes following perceived failure and experiences of shame. Consistent with goal-striving theories, students' interviews underscored motivation-related and learning-related appraisals and behaviors that were evoked after they received exam feedback and felt

shame. Perhaps most importantly, students' subsequent appraisals initiated paths of self-regulating, or non-self-regulating, thoughts and behaviors. Looking across the semester, data analysis also disclosed dynamic, reciprocal relationships of control-related and value-related facets of students' cognitions, emotions, and motivations. Our results support Pekrun's (2000) contention that students' control-related and value-related appraisals are the superordinate categories organizing their motivations and emotions. Regarding our participants' dynamic self-regulation, we will use these higher order categories to connect our findings to extant literature.

Value-Related Appraisals: The Power of Future Goals

The most prominent finding from this study was the powerful influence that future goals can have for mitigating the intensity of students' perceived failure, shock, and shame and facilitating curative cognitions and behaviors. Locke and Latham (e.g., 1994, 2002) have contended that goal commitment—"the degree to which an individual is attracted to the goal, considers it important, is determined to attain it, and sticks with it in the face of obstacles"—(Locke & Latham, 1994, p. 16), provides the intensity needed for concerted focus. During the self-assessment phase, students in this study began to separate into those who were highly committed to future goals and were able to reenergize goal-related behaviors and those who were not highly committed to, or unclear about, future goals; and were not able to galvanize motivational energy. Interestingly, for students' whose goal commitment was high, the decision to invigorate goal strivings seemed almost instantaneous. In contrast, for students who were not committed to clear future goals, the decision to either maintain or lower their levels of motivation seemed to happen over an extended period of time. Within the decision-making time period, non-self-regulating students seemed to struggle with multiple-goal conflicts, and their decision to *not* increase motivated behavior finally emerged as if by default. On the other hand, self-regulating students' seemed to not only be able to gar-

ner motivation immediately, but were able to creatively adapt behaviors to overcome the obstacle of perceived failure. As Butler and Winne (1995) have suggested, "It may become necessary for self-regulating learners . . . to manage motivation, and to adapt and occasionally invent tactics for making progress" (p. 245).

Students' motivation was facilitated when they reflected on the importance of their future goals and renewed their commitment to goal-attainment. Comments from the self-regulating students showed that they used their goals to energize their effort in subsequent self-regulation for exam preparation. Kuhl (1985) suggested that, when motivation begins to wane, revisiting one's initial goal incentives (another aspect of one's values) is a powerful volitional strategy for facilitating goal-directed activity. One self-regulating student exemplified this process, explaining:

> My motivation is not just making an *A* in this course. . . . My motivation for doing well in this class is to succeed, to retire, die around my grandkids in a nice house. . . . It goes way beyond the end of the semester . . . and so my motivation is long-term more than just trying to succeed in this class.

Control-Related Appraisals: The Power of Volitional Strategies

The motivational differences of the self-regulating and non-self-regulating students regarding their future goal suggested that aspects of future time perspective (FTP; Shell & Husman, 2001) plays a major role in organizing students' academic self-regulation. With respect to the students in our study, the most powerful aspect of having clear, future goals was the element of *connectedness* (Husman & Shell, 2008). Consistent with FTP, students who are high in connectedness are "more likely to make connections between their present activities and future goals" (Husman & Shell, 2008, p. 167). For self-regulating students, having a strong connection between their current thoughts and behaviors seemed to facilitate their hopes for the future and

resulted in their use of volitional strategies to protect their intention of obtaining their future goal (i.e., value) as well as to protect their perceptions of control (i.e., autonomy; Ryan & Deci, 2006; self-efficacy; Bandura, 1991a, 1991b, 1997**)**.

As described by Corno (1994), "effort is 'mindfully,' not blandly, invested by students" (p. 232). Indeed, the most salient aspect of students' self-regulation processes is that "the learner actually has control over his own learning, steering and directing cognitive and motivational processes to achieve the learning goal" (Boekaerts & Cascallar, 2006, p. 200). Self-regulating students in our study were able to exert control by using volitional strategies to initiate and maintain their engagement with the course material and—perhaps because of the volitional strategies—students were able to add learning strategies to their academic self-regulation processes (i.e., to adapt; Butler & Winne, 1995) and to employ learning strategies that facilitated deeper cognitive processes (e.g., "intention to understand," "relating ideas," "monitoring understanding"; Entwistle & McCune, 2004, pp. 337–338). This finding supports the contention that, through invoking volitional strategies to initiate or maintain learning activities, students can become actively engaged for learning (Reed, Schallert, & Deithloff, 2002; Schallert et al., 2004).

We chose to investigative students' behaviors within the cycle of an academic semester because academic semesters (and academic years) represent naturally occurring start-points and end-points of students' learning processes. "Recognizing that all behavioral events can (potentially) be described in levels of analyses ranging from molecular to molar . . . it is often critical to choose which level to focus on to derive meaningful explanations and interventions" (Ryan & Deci, 2006, pp. 1571–1572). Looking across this academic semester, students' emotional reactions, multiple goals, learning-related skills, and ongoing appraisals emerged into trajectories of their motivational and cognitive paths for learning, culminating in a course grade.

Educational Implications

A large array of studies has demonstrated the importance of students' perceptions of control and efficacy for supporting their persistence in the face of difficulties. Our results contribute to this body of research as well. Additionally, our results also may suggest that, in the face of shame, students may need to turn the global focus of their failure into more discrete behaviors for which they can control. Instructors could facilitate this process by providing messages to students about specific behaviors that students can enact to support successful achievement, including both study strategies and volitional strategies.

The self-regulating students in our study highlighted the importance of possessing a repertoire of study strategies and volitional strategies for flexible adaptation. Our results suggested that using multiple study and volition strategies could facilitate students' self-regulation of stressful emotions and perceptions of failure. These strategies provide students with options for control of their learning. One would hope that students would obtain these strategies along the way to higher education. Studies have shown, however, that many students do not come to college with the knowledge of multiple learning strategies, particularly strategies needed for deeper processing, nor do they come to college with a repertoire of volitional strategies. Therefore, in addition to obtaining a broad repertoire of study strategies, students also need to obtain a repertoire of volitional strategies.

Many colleges have courses aimed at providing students with learning strategies and volitional strategies. Unfortunately, typically high-performing college entrants may not see the need for attending these courses. Perhaps colleges and universities could identify common first-year classes, as well as major entry-level classes in which instructors could incorporate class discussions about the use of multiple strategies to support students' learning and volition. Students should receive messages about the need to flexibly choose strategies to facilitate both short- and long-term goals and that the confrontation of failure requires changes of strategies or the initiation of volitional strategies. Along these

lines, instructors also could provide messages about the use of volitional strategies in service of the goal to be *involved* with course material. In this sense, "although it is wonderfully gratifying to complete a task, to accomplish a goal, and to see a successful end to a commitment, it is possible that too much focus on the goal itself can unnecessarily reduce the enjoyment one experiences in the actual process of learning" (Schallert et al., 2004, p. 1719). We therefore encourage instructors to provide students with messages that encourage them to understand that "involvement itself can be an incentive to students' use of volitional strategies" (Schallert et al., 2004, p. 1719).

Instructors of first-year students also could encourage students to look for the alignment of course assessments and the presentation of course materials. If misalignment is detected, students could engage in nonconfrontational discussions with academic instructors to help make instructors' expectations more explicit (thereby taking control). Indeed, colleges and universities would do well to help instructors align their course goals, objectives, and assessments through workshops focused on these topics. When objectives and assessments are closely aligned, students have less "guess work" in preparing for assessments. Therefore, when objectives and assessments are closely aligned, students have more control in successfully preparing for course-related assessments.

Conclusion: Potential for Goal-Changes

Although academic semesters and years represent naturally occurring start-points and end-points of students' learning processes, these cycles occur within larger cycles of students' academic and life paths. According to Pekrun's (2000) Control-Value theory, consequences of students' experiences of negatively valenced emotions (e.g., process-related emotions such as anxiety, prospective emotions such as fear, retrospective emotions such as shame), may induce complex thinking that could lead to motivated behavior. Although some students in our study

were not self-regulating in terms of galvanizing motivation for studying within this single semester—after the semester—the non-self-regulating students could engage in complex appraisal-processing in which they enfold their experiences into new, unsullied goals and trajectories. Students' ongoing cognitions could include evaluations of personal preferences and strengths that lead to the formation of future goal intentions, goal-striving, and ultimate successes. Using emotions as information, a reevaluation of today's failure could lead to tomorrow's triumph.

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