Academic motivation researchers have paid special attention to the self and self-processes in diverse motivational phenomena. While focusing on competence and values, as well as their variants (e.g., self-concept, self-efficacy, expectancy, interest, intrinsic motivation) as the primary determinants of outcomes in achievement settings, researchers demonstrated that some aspects of the self are important to understand students’ optimal functioning. We believe there are two reasons for these efforts. First, perceived competence and values are motivational constructs that are central in defining the self in achievement contexts (Wigfield & Eccles, 1994). Second, self-processes function as an overarching mechanism within which competence and values shape individuals’ cognitive, emotional, and behavioral outcomes, which translate into learners’ engagement, perseverance, strategy
use, and performance in academic situations (e.g., Covington, 1984, 2009; Pelham & Swann, 1989).

A large amount of research to date, particularly studies conducted within the expectancy-value paradigm, proposed conceptual possibilities regarding how the aforementioned constructs may relate to one another (e.g., Eccles, Wigfield, Harold, & Blumenfeld, 1993; Wigfield et al., 1997; see Wigfield & Eccles, 2000, for a review). In this chapter, we focus on the few studies that investigated the dynamic interrelations between perceived competence, value, and the self, with perceived self-worth as a core construct. Self-worth theory argues that learners’ motive to establish and maintain a positive self-image, especially in situations with strong ability implications, is one of the reasons underlying various behaviors in the classroom (Covington, 1992). We suggested that although low perceived competence toward academic tasks alone could independently function as a source of threat to one’s self-worth that leads to various maladaptive behavioral patterns, interaction between value and competence could more strongly determine the degree of threat to one’s self-worth and consequent behaviors.

We first present a brief overview of the self-worth theory, followed by a description of important individual differences, environmental constraints, and motivational factors, which potentially aggravate perceived threats to students’ self-worth. We then describe possible costs of self-worth threat in the form of specific achievement-related outcomes in classroom settings. Finally, we argue that the combination of high value and low perceived competence is most detrimental to students’ self-worth and presented empirical evidence to support our claim.

**SELF-WORTH THEORY: AN OVERVIEW**

Covington (1984) proposed a theory of achievement motivation by focusing on individuals’ self-protective processes. These processes were presumed to be influenced by dual needs: the need to approach success and the need to avoid failure. The basic assumptions of the theory are that (1) individuals have a sense of self-worth, which refers to individuals’ judgments of their own worthiness, and (2) individuals try to maintain or improve their sense of self-worth while trying to protect it against perceived threats (Covington, 1992).

**Effects of Ability, Effort, and Performance on Perceived Self-Worth**

The self-worth theory, with its focus on classroom contexts, describes ability, effort, and performance as key constructs in the self-protective pro-
cesses, postulating them to exert direct influences on students’ sense of self-worth (Covington, 1984). In other words, students’ ability, effort, and academic performance all directly predict students’ sense of their worthiness in academic settings. For example, if students are certain that they possess high ability in accomplishing certain tasks, this belief positively affects their sense of self-worth, regardless of their actual performance levels in the tasks.

The exact roles that ability and effort play in this theoretical model are rather complicated, however, because these two constructs also indirectly influence students’ judgments of their own self-worth via performance levels. For instance, students can ascribe their poor performance in certain tasks to their ability or effort. If students believe that their poor performance is the result of their low effort, the performance does not necessarily reflect students’ ability levels, and hence is less likely to threaten students’ sense of worthiness. In contrast, if students end up with poor performance despite their best effort, the poor performance strongly implies lack of ability, thus negatively affecting students’ sense of self-worth. A combination of high effort and poor performance, therefore, provides students with the most abysmal outlook when they are motivated to establish positive self-image or worthiness.

For this reason, Covington and Omelich (1979b) depicted effort as a “double-edged sword.” On the one hand, investing effort in learning is an advisable thing, especially from an ethical point of view. Students may believe that it is desirable or even required to invest considerable effort in accomplishing the given tasks in the classroom. On the other hand, they may also desire to attain respectable achievement with a minimum effort or, preferably, without having to exert any effort, which they think implies high ability. Failures after high effort thus create particularly precarious situations for many students, as their self-worth becomes vulnerable.

Many students also believe that one’s ability is the sole determinant of their academic performance (Covington, 1984). Moreover, they are inclined to equate ability to not only their performance but also their worthiness in classroom contexts, which significantly affects their views toward themselves. For example, in a study on the relationship between grades and daily self-esteem, poor grades had negative effects on self-worth of college students. Furthermore, these effects were greater when their self-worth was contingent on their academic achievement (Crocker, Karpinski, Quinn, & Chase, 2003). Therefore, equating ability, performance, and worthiness renders classroom contexts full of threats to students’ self-worth, particularly in the face of potential failures.
Perceived Self-Worth and Learning Outcomes

Students’ perceived self-worth is strongly associated with diverse outcomes in classroom settings (see Covington, 2009, for a review). Specifically, students with high perceived self-worth demonstrate psychological well-being, better adjustment at school, and interest in learning. Students with low perceived self-worth, on the contrary, show disruptive behaviors, dissatisfaction at school, and symptoms of learned helplessness and burnout.

The self-worth theory provides us with a useful framework for understanding students’ use of certain achievement strategies as well. When students feel that their sense of worthiness is under threat, they desire to do something in an attempt to protect it from the perceived threat. In the process, they employ certain self-protective strategies. Covington (1992) delineated the types of achievement strategies students frequently use for self-protective purposes, which include making excuses, reducing effort, delaying, and disengaging from tasks. Students intentionally create obstacles to achieving their goals in the face of potential failure so that they can ascribe the failure, if it has to occur, to these obstacles. During task pursuits, students might intentionally withdraw effort when failure becomes likely, so that others could blame reduced effort rather than their inability for their failure. By employing these self-protective or defensive strategies, students can extricate themselves from being stigmatized as incompetent.

Once the initial link between low self-worth and negative outcomes is established, however, it is difficult to stop the vicious cycle of engaging in maladaptive behaviors and suffering from even more negative consequences. For instance, students engage in self-handicapping in an attempt to defend their self-worth against threats. They cannot continuously resort to the same self-handicapping strategies, however, because repeated use of such strategies would make their teachers and peers stop believing in the excuses they generate and start questioning their ability. As the effectiveness of self-protective strategies wears off, these students give up trying, descend into learned helplessness, and eventually take their minds off academic settings altogether. Students who repeatedly use these strategies end up with decreased motivation because they prematurely forego opportunities to achieve desired goals and experience success in a desperate attempt to protect their sense of worthiness as competent learners.
WHAT HAPPENS WHEN STUDENTS FEEL THREATENED?

Emotional Cost: Damaged Psychological Well-Being

Self-worth threat can lead students to experience emotional instability because of fear of failure and fear of disapproval (e.g., Covington, Omelich, & Schwarzer, 1986; Garber, Robinson, & Valentiner, 1997). The definition of self-worth implies that individuals are in the state of psychological well-being when their perceived worthiness is maintained and protected. When they detect threats to their sense of worthiness, they feel stressed and become anxious, which in turn decreases their sense of self-worth.

Self-worth threat affects students’ psychological well-being, leading to fluctuations in affect and a sense of belongingness, as well as their perceived worthiness in classroom contexts (Crocker et al., 2003). Covington and Omelich’s (1979b) study on the relations between effort, failure, and affective reactions revealed that failure despite high effort was a strong predictor of personal dissatisfaction and public shame among college students. The failure condition accompanied by low effort, by contrast, generated the least shame in the students. This finding signifies that students have the misguided notion that a combination of high effort and poor performance implies inability. Thus, it is inevitable that this condition poses a major threat to students, which gives rise to their negative affective reactions.

Motivational Cost: Lowered Task Value

Values are requisite motivational beliefs that predispose students to be involved in particular tasks. Therefore, lowered values are detrimental to adaptive learning outcomes in various ways. Unfortunately, evidence suggests that students respond to the potential threat to their self-worth by lowering values toward the task. As mentioned previously, the combination of high effort and failure presents a particularly serious threat to students’ self-worth. Students are disposed to minimize the potential negative effects of failure on their self-worth and lowering the subjective value of the tasks seems to be one feasible way for them to accomplish that goal (Eccles & Wigfield, 2002).

By lowering the subjectively judged value of the tasks, students can dismiss the tasks as unimportant and, consequently, failure on those tasks becomes less likely to induce feelings of threat to their self-worth. Nonetheless, this seemingly intelligent way of dealing with perceived threat marks the starting point of a vicious cycle: Students lower the value of the tasks at which they think they fail; students estrange themselves from engaging in...
the tasks that are not valued; and students finally face irrevocable failure on the tasks because of their lack of skills.

Cognitive Cost: Sacrificed Learning due to Maladaptive Strategy Use

Another way to minimize the potential self-worth threats is to avoid facing problems or challenges squarely. In dealing with threats to self-worth, failure-avoiders or self-protectors cannot help but adopt defensive strategies to make the threat watered down. Defensive strategies are maladaptive because they are just palliative treatments for escaping from the threatening situation, rather than fundamental solutions to overcome the threats. Students who want to avoid embarrassment caused by failures use various maladaptive strategies to distract others’ attention away from one’s inability and to minimize effort in achieving the tasks. Common strategies used in these situations include self-handicapping, defensive pessimism, avoiding novelty, and, possibly, academic cheating. All of these strategies cause real sacrifice in learning.

Self-handicapping strategies are widely adopted by failure-avoiders and self-protectors because they are highly approachable. Practically everything around students can be sources of their excuses (Covington, 2009). Specifically, self-handicapping refers to intentionally arranging obstacles to individuals’ own desired outcomes, so that those obstacles can be seen as the causes of potential failure (Berglas & Jones, 1978). If students saw that failure is likely on an upcoming exam, they choose to hang out with friends or oversleep instead of studying to secure a cause for failure that does not imply lack of ability. These excuses also leave the possibility intact that someday they would invest sufficient effort and succeed.

Defensive pessimism, expecting the worst outcomes prior to being evaluated (Norem & Cantor, 1986), is another popular strategy for self-protectors (Covington, 2009). Some students tend to set unrealistically low goals to protect their self-worth when they see the potential failure. It is because they are afraid of the disappointment following expectation. If they set a challenging goal and fail to achieve it, their self-worth would be threatened. However, if they set an easy goal and achieve it successfully, they would be relieved and satisfied with the goal attainment. If these students achieve great success in the low-goal tasks, they would attribute the results to external and uncontrollable factors such as luck. This reasoning would catch up with them in the future because they cannot digest mastery experiences productively, which are the most critical source of self-efficacy information (Bandura, 1977).

Avoiding novelty can also be a possible maladaptive result of damaged self-worth. Feeling high fear of failure and low hope for success, students become reluctant to approach novel or challenging tasks, even though
challenges can provide students with a good chance to learn new things (Turner et al., 2002). Academic cheating or copying someone else’s assignments or tests (Baird, 1980) could also be construed as an attempt to protect one’s self-worth from perceived threat. Students use this maladaptive strategy when they desire to get better outcomes without expending the requisite effort. However, they would not engage in cheating behaviors unless they deem the tasks important and the associated achievement valuable (Murdock & Anderman, 2006). Temptation to cheat would increase as the perceived self-worth threat becomes stronger. Regardless of the particular type of strategies used to protect one’s sense of worthiness, the maladaptive nature of these strategies eventually leaves students with gaps in learning that they cannot easily fill afterward.

FACTORS AFFECTING SELF-WORTH THREAT

Individual Differences: Baseline Self-Worth

Motives. The fundamental mechanism of individuals’ self-worth derives from psychological motives representing individual differences in the degree of needs for specific behaviors, rewards, or things. Among various motives, Covington (1992) focused on the two achievement-related motives: striving for success and fear of failure. These two motives can conflict with each other when an individual initiates a specific achievement behavior, as they determine the valence of behaviors to be approach- or avoidance-oriented (Atkinson, 1957).

Covington (2009) proposed the quadripolar model to describe students’ differential orientations toward success and failure with the two independent achievement motives, approach success and avoid failure. Based on these dual motives, this model divides students into four types: overstrivers, optimists, failure-avoiders, and failure acceptors. Overstrivers refer to students with high striving for success and high fear of failure. They prepare for success excessively and expend lots of effort as a means to prevent failure. Although overstrivers usually produce good outcomes, they tend to be uncertain of their competence, which makes them vulnerable to failures (Covington, 1992). Optimists refer to students with high striving for success and low fear of failure. Unlike overstrivers, optimists are resilient to failures in that they are self-efficacious in terms of challenges and they actively cope with setbacks. Covington and Omelich (1991) described optimists as students who show “exemplary achievement behaviors” because their motivation to achieve does not necessarily reflect motives to protect their self-worth. Failure-avoiders, otherwise known as self-protectors, refer to students with low success orientation and high fear of failure. They are
extremely vulnerable to failures because their motivation largely depends on preventing failures. Forced into an orientation toward avoiding failure, they are subject to being self-protective. Failure acceptors, the last type of students described in the quadripolar model, refer to students with low success orientation and low fear of failure. Due to lack of motivation to achieve, they are liable to become helpless in the class.

**Attribution styles.** Individual differences in attribution style, the preferred way with which individuals attribute outcomes to particular causes, might also have an influence on students’ perceptions of self-worth threat (Covington & Omelich, 1979a, 1981). In the attribution theory, Weiner (1985) proposed several major factors to which people usually attribute their successes and failures such as ability, effort, task difficulty, and luck. He also suggested three attribution dimensions: locus of control, stability, and controllability. Locus of control clarifies whether the cause is inside (internal) or outside (external) the individual. Stability means whether the cause is consistent (stable) or inconsistent (unstable) over time. Controllability refers to whether the individual perceives control over the cause (controllable) or not (uncontrollable). The attribution style that is most threatening to one’s self-worth is that of attributing successes to external, unstable, and uncontrollable things such as luck and of attributing failures to internal, stable, uncontrollable things such as inability. This attribution style frequently appears among individuals who are high on fear of failure and low on strivings for success (Covington, 1984).

**Implicit theory of intelligence.** Implicit theory of intelligence is another individual-difference variable that can affect the degree to which students feel self-worth threat. The theory was proposed by Dweck (2000) and refers to whether students consider their ability to be fixed (uncontrollable) or incremental (controllable). As previously mentioned, the self-worth theory recognizes that perceptions of ability are important because self-worth can be maintained only when one’s ability and—partly—effort lead to good performance (Covington, 1984; Covington & Omelich, 1981).

Some students believe that ability can improve by putting forth effort (e.g., Dweck, 1986; Dweck & Leggett, 1988). Thus, they can easily get over failures and try to protect their self-worth by putting in more effort. Other students who believe that putting in effort cannot mend deficiencies in their fixed ability are constantly afraid of having their low ability disclosed. The latter type of students is easily vulnerable to self-worth threat (Robins & Pals, 2002). They are afraid of failures and are obsessed with protecting their self-worth by hiding their lack of ability. To do so, they use maladaptive strategies such as making excuses and withdrawing efforts.
Environmental Amplifiers of Self-Worth Threat

**Normative comparison.** Normative comparison or norm-referenced grading can break the effort-outcome linkage (Covington, 2009). Even though being aware of or comparing oneself with others is part of the natural and unavoidable developmental process, it can cause a decline in one’s self-worth. In an atmosphere where social comparison cues are abundant, students become likely to fear doing worse than others, which ironically interrupts their effort investment. More precisely, in the norm-referenced grading system, students lose the sense of autonomy in achieving outcomes because the grade does not accurately represent what they really achieve but the result of comparisons between their work and that of others (Pulfrey, Buchs, & Butera, 2011). Because investing effort does not guarantee good grades, students fear investing effort for uncertain outcomes and prefer expending minimum effort, which does not signify lack of ability, should they fail.

**Competition.** Competition is harmful to perceived self-worth for the following three reasons. First, according to Alschuler (1973), competition maximizes the self-worth threats and minimizes the amount of psychological rewards like the sense of achievement (as cited in Covington, 1984). Only few winners, mostly a single winner of the competition, can enjoy the positive affect, relief, and recognition from others. Most participants in the competition choose avoiding failures over winning because the probability of being the winner is too low to stake their full energy and effort. Second, individuals tend to attribute their successes or failures to their fixed ability when competing with others, especially under situations with limited time and resources (Ames & Ames, 1981). This ability perception can make students perceive the competition as unfair because there must be someone who has better intelligence or ability, whose performance they cannot exceed no matter how hard they try. This perceived inequity disturbs students’ concentration on and effort into the task (Covington, 2009). Third, competition harms positive alliance in the class. Positive alliance in the class plays an important role to satisfy students’ need for relatedness, to help students feel positive affect, to create a mistake- or failure-tolerant atmosphere, and to help students focus on their own improvement or learning (Covington, 2009). However, competition breaks these adaptive classroom structures by making students hold each other in check. Emotionally unstable students can be even more easily threatened and damaged by the perceived self-worth threat.

**High-stakes testing.** High-stakes testing, the worst combination of normative comparison and competition, can multiply self-worth threat by increasing students’ fear of failure and test anxiety (e.g., Jones et al., 1999; Kohn, 2000; Paris, 2000). The word *stake* can be substituted by words like *pressure*, *cost*, and *risk*, which can cause fatal damage to students’ future life unless they succeed. Failure in high-stakes testing plainly discloses the stu-
dents’ lack of ability to others and is likely to have strong continuous impact on their future. In facing these tests requiring examinees to accept huge risks of failure and threat to their self-worth, students cannot help experiencing high anxiety and focusing on the outcome rather than the process.

**Perceived achievement pressure.** Perceived achievement pressure from parents, teachers, and society could be a significant environmental amplifier of threat to students’ sense of self-worth (e.g., Eskilson & Wiley, 1987; Leff & Hoyle, 1995; Smith, Zingale, & Coleman, 1978; Thompson, Davidson, & Barber, 1995). Although perceived pressure is a common mechanism, which underlies all aforementioned environmental factors of self-worth threat, perceived achievement pressure alone could prove harmful to students’ self-worth without any normative comparison, competition, or high-stakes testing. When students perceive that significant others, such as parents and teachers, overestimate their potential and have high expectations regarding academic attainment, they can be pressured and oriented toward avoiding letting them down. High expectations from significant others can activate students’ need for approval and make them put more effort into the task. When students cannot fulfill the expectations, however, the expectations turn into pressure, making students become submissive and defensive in fear of disappointing the significant others.

### Motivational Amplifiers of Self-Worth Threat

**Low perceived competence.** Competence motivation functions as a core construct in many motivation theories in general and academic motivation research in particular because of its pervasive influences on individuals’ emotion, cognition, and behavior (Pajares, 1996). In achievement settings, perceptions of competence could orient individuals toward either approaching success or avoiding failure. Self-efficacy beliefs, the most representative competence perceptions in achievement situations, strongly influence students’ persistence, task choice, academic performance, cognitive engagement, and resilience (e.g., Schunk, 1981; Pintrich & De Groot, 1990), among other things.

Covington (1984) depicted competence as a key component of individuals’ self-concept and argued that individuals’ sense of self-worth depends heavily on competence perceptions. Competence, achievement, and self-worth are even equated with one another (Beery, 1979). Specifically, individuals with a strong sense of competence tend to produce high achievement and, as a result, are more likely to establish positive self-worth. When experiencing failure, these individuals are inclined to ascribe the failure to insufficient efforts, which help them maintain their high self-worth. On the contrary, individuals with low perceived competence are less likely to
maintain their self-worth than are those with high competence beliefs. If students perceive themselves as incompetent, they become more vulnerable to external threats, such as pressure or competition. They tend to perceive the failure as threats to their worthiness and this tendency is amplified when they attribute their failure to incompetence.

This process is most visibly demonstrated in classrooms where students are frequently exposed to evaluations, competition, and frequent social comparisons. In the face of adverse performance outcomes, students with weak competence beliefs easily feel threatened because low achievement discloses their inability. The more strongly students believe that academic outcomes represent their ability, the more strongly they feel the need to protect their self-worth because the failure clearly indicates lack of competence (Martin, Marsh, & Debus, 2001). Low perceived competence is thus associated with negative emotions such as shame and guilt (Pekrun, 2006) and use of maladaptive strategies such as help-seeking avoidance (Ryan, Gheen, & Midgley, 1998) or cheating (Murdock, Hale, & Weber, 2001).

High values with low competence. Ironically, assigning high value to academic tasks could function as a source of threat to one’s self-worth. Self-beliefs in specific activities, tasks, and domains influence individuals’ sense of self-worth, depending on how much importance and meaningfulness individuals add to these activities, tasks, and domains (Pelham & Swann, 1989). With respect to achievement-related strivings, the value that individuals attach to certain tasks may increase the influence of competence beliefs on their sense of self-worth. Specifically, even though students hold varying perceptions of competence toward accomplishing diverse academic tasks, the competence beliefs toward tasks that are highly valued by others as well as themselves would have stronger influence on their overall sense of self-worth.

Differently stated, this implies that (1) tasks and domains that are not valued by either individuals or society may not pose threat to one’s self-worth, regardless of the level of perceived competence toward those tasks and domains and (2) low perceived competence in tasks and domains that are valued by either individuals or society would amplify stronger threats to individuals’ sense of their own worthiness. In other words, values in achieving certain tasks play differential roles in influencing individuals’ approach behaviors toward the tasks, depending on their perceived competence. There could be instances where individuals do not identify with or reject the societal values and norms. Perceiving low competence in the tasks that society values may not pose a serious threat to one’s self-worth in these rare instances. However, typically other consequences follow. For example, when students reject the value of schooling and disengage, that will affect their future negatively.

Task values grow out of diverse sources. The expectancy-value paradigm (Eccles & Wigfield, 2002) distinguishes between three types of task values:
attainment value, utility value, and intrinsic value. Attainment value refers to the perceived importance of doing well on a task for one’s self-concept; utility value refers to the perceived usefulness of a task for attaining one’s short-term and long-term goals; and intrinsic value refers to the interest and enjoyment garnered from engaging in a task (Eccles & Wigfield, 1995).

According to Eccles’s (2005) in-depth explanation of subjective task values, intrinsic value originates from internal sources as it represents individuals’ pure pleasure while performing the tasks and is thus relatively independent from external influences. Attainment and utility values of tasks and domains are also generally derived from internal sources as they reflect the beliefs internalized or integrated into individuals. Unlike intrinsic value, however, these two values, particularly utility value, can also be determined partly by the extent to which these tasks and domains are deemed important and useful by others or society in general. Wigfield and Eccles (2002) thus pointed out that utility value is the least closely related to competence beliefs than the other two task values that reflect relatively more “intrinsic aspects.”

Even though the beliefs conveyed by the social milieu are not yet internalized, individuals can still be considerably influenced by the beliefs, if in an introjected state (Assor, Roth, & Deci, 2004). The influences of socializers’ beliefs on individuals that certain tasks and domains are important and useful are often strong enough to lead the individuals to appreciate the importance and usefulness of them. Despite these differences, the three types of values typically correlate strongly with one another, with intrinsic value showing stronger relations to expectancy compared to other types of task values in the expectancy-value paradigm (e.g., Wigfield et al., 1997).

A study on the relation between importance and global sense of self-worth indicates that importance strongly influences individuals’ self-worth, particularly when the individuals have negative self-views (Pelham & Swann, 1989). In classrooms, low perceived academic competence alone could pose sufficient threat to students’ self-worth because performing well academically is generally considered a highly valuable thing. As described earlier, low competence may not be a source of enough threat for the small group of students who fail to see any value in academic tasks. Self-worth threat would be maximized when students hold high value but low perceived competence (see Figure 9.1).

EMPIRICAL EVIDENCE OF SELF-WORTH THREAT BY VALUE × COMPETENCE

Compared to other amplifiers of self-worth threat discussed in this chapter, relatively little evidence exists in the literature regarding the hypothesized interaction of value and competence on perceived self-worth threat.
We thus present preliminary evidence for the theoretical assumption proposed above that self-worth threat increases in situations where high value is not supported by perceived competence. Whether different prediction patterns would emerge depending on the type of task values was another exploratory interest. We examined large-scale data from the Korean Education Longitudinal Study 2005 (hereafter KELS 2005), collected by the Korean Educational Development Institute, and analyzed variables relevant to our hypothesis.

**Participants**

KELS 2005 has followed 6,908 randomly sampled seventh graders in Korea since 2005. We analyzed the data collected in 2006 and 2007, when the participants were eighth (T1) and ninth graders (T2), respectively. Because 125 (1.8%) students were not tracked after the first survey, our sample included 6,783 students.

**Measures**

All of the scales in the present analyses used 4-point Likert-type responses that ranged from 1 (not at all true) to 4 (very true), except for the test stress scale that was measured by a 5-point response scale (i.e., 1 = not at all true, 3 = somewhat true, and 5 = very true). Task values and self-efficacy at T1 and self-handicapping and test stress at T2 were included in the analyses. All of the scales demonstrated acceptable reliability with Cronbach’s alpha coefficients ranging from .82 to .92. Reliability could not be estimated for attainment and intrinsic values that were assessed by a single item (see Table 9.1).

**Task value.** Possible indicators of three types of subjective task values existed in KELS 2005. Attainment and intrinsic values were assessed in reference to math and English by a single item, whereas utility value was assessed in reference to school learning in general. More precisely, there
was a single item each in reference to math and English that assessed attainment (i.e., “Math/English is important for me”) and intrinsic values (i.e., “I won’t quit studying math/English because it is interesting”). We used the composite score by averaging the math and English items on the same construct. In contrast, there were three items on utility value, asking about potential usefulness of studying in general (e.g., “I study to get a good job”).

**Self-efficacy.** Five items assessed self-efficacy beliefs in math and English (e.g., “I am confident that I can understand even the difficult content presented in math/English textbooks”). As was the case with attainment and intrinsic values, we computed a single composite score by averaging math and English self-efficacy scores.

**Self-handicapping.** Six items assessed general academic self-handicapping (e.g., “Some students spend time doing other tasks instead of studying on the night before tests, so they could blame insufficient time for studying for failure if they get bad grades”).

**Test stress.** Test stress was measured by nine items referring to test-taking situations in school in general (e.g., “I tend to feel very nervous during the exam”).

### Overview of Analyses

After checking descriptive statistics, we conducted six hierarchical regression analyses predicting self-handicapping and test stress from each of...
the three task values and self-efficacy. The main and interaction effects of these two variables were tested. In Step 1, task value and self-efficacy entered the equation for testing the main effects. In Step 2, the task value × self-efficacy interaction term entered the equation. To avoid a potential problem with multicollinearity, we centered independent variables in the analyses (Aiken & West, 1991).

Descriptive Statistics and Correlation Results

Table 9.1 presents the descriptive statistics and correlation coefficients between the variables. Consistent with the Eccles and Wigfield (1995) expectancy-value model, moderate to strong positive correlation existed between T1 task values and self-efficacy (rs from .18 to .71, all ps < .01). All three T1 task values and self-efficacy correlated negatively with T2 self-handicapping strategy use (rs from –.05 to –.07, all ps < .01). All three task values also demonstrated positive correlation with T2 test stress (rs from .05 to .07, all ps < .01). T1 self-efficacy did not show any significant relationship with T2 test stress. It is curious that correlation between T1 variables and T2 variables are quite low, ranging between |.02| and |.07| in absolute values. Such low correlation could indicate that some moderating variables are at play between the two sets of variables.

Interaction Effects between Task Values and Self-Efficacy on Self-Handicapping

Table 9.2 presents the results from hierarchical regression analyses predicting T2 self-handicapping. When T1 attainment value entered the equation in Step 1 with T1 self-efficacy, both variables predicted T2 self-handicapping negatively (for attainment value, β = –.029, p < .05; for self-efficacy, β = –.056, p < .001). When the interaction term entered in Step 2, the proportion of variance explained increased significantly (ΔR² = .005, p < .001) and the interaction effect on self-handicapping was significant and negative (β = –.088, p < .01). The pattern was consistent across the three types of task values, except that the main effect of intrinsic value on self-handicapping was not statistically significant (p > .05).

To illustrate the pattern of interaction between task value and self-efficacy, which was our main interest, we plotted three regression slopes of self-handicapping predicted by task value, separately for high, middle, and low levels of self-efficacy. We also plotted the three slopes separately for each task value. We tested whether the regression coefficient for each slope for each level of self-efficacy was statistically significant (Aiken &
Table 9.2 Hierarchical Multiple Regression Analyses Predicting T2 Self-Handicapping from T1 Task Value and Self-Efficacy

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Attainment Value</th>
<th>Intrinsic Value</th>
<th>Utility Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \Delta R^2 )</td>
<td>( \beta )</td>
<td>( \Delta R^2 )</td>
</tr>
<tr>
<td>Step 1</td>
<td>.005***</td>
<td>–.029*</td>
<td>–.012</td>
</tr>
<tr>
<td>Value</td>
<td></td>
<td>–.056***</td>
<td>–.060***</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.005***</td>
<td>–.088***</td>
<td>–.060***</td>
</tr>
<tr>
<td>Value ( \times ) Self-efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ( R^2 )</td>
<td>.010***</td>
<td>.008***</td>
<td>.006***</td>
</tr>
<tr>
<td>N</td>
<td>6,268</td>
<td>6,268</td>
<td>6,262</td>
</tr>
</tbody>
</table>

* \( p < .05 \); ** \( p < .01 \); *** \( p < .001 \).

West, 1991). Figure 9.2 illustrates the interaction between task value and self-efficacy on self-handicapping. In general, attainment and intrinsic values showed similar prediction patterns. Consistent with our hypothesis, these two values positively predicted self-handicapping strategy use at low levels of self-efficacy (for attainment value, \( b = .03, n.s. \); for intrinsic value, \( b = .04, p < .05 \)). In comparison, both attainment and intrinsic

![Figure 9.2](https://via.placeholder.com/150)

**Figure 9.2** Relationship of task values with self-handicapping strategy use at different levels of self-efficacy. H_SE, high self-efficacy; M_SE, average self-efficacy; L_SE, low self-efficacy. (a) Relationship of attainment value with self-handicapping strategy use. * \( p < .05 \); ** \( p < .01 \).
values negatively and more strongly predicted self-handicapping strategy use at high levels of self-efficacy (for attainment value, $b = -0.08$, $p < .01$; for intrinsic value, $b = -0.06$, $p < .01$). Utility value, on the other hand, pre-
dicted self-handicapping negatively across the three levels of self-efficacy (βs from –.02 to –.07).

**Interaction Effects between Task Values and Self-Efficacy on Test Stress**

Table 9.3 presents the results from hierarchical regression analyses predicting T2 test stress. The models with different task values demonstrated a highly similar prediction pattern. When either T1 attainment, intrinsic, or utility value entered the equation in Step 1 with T1 self-efficacy, both of these variables predicted T2 test stress significantly. Attainment, intrinsic, and utility value predicted test stress positively (for attainment value, $\beta = .100, p < .001$; for intrinsic value, $\beta = .097, p < .001$; for utility value, $\beta = .064, p < .001$), while self-efficacy predicted test stress negatively (βs from –.024 to –.073). When the interaction term entered the equation in Step 2, it proved to be significant and negative (βs from –.050 to –.060, all $p$s < .001).

Figure 9.3 describes the interaction pattern between task value and self-efficacy on test stress, with the regression coefficient at each level of self-efficacy. Whereas the predictive relationships of task values with self-handicapping strategy use differed depending on the levels of self-efficacy, all three T1 task values demonstrated consistently positive relationships with T2 test stress across different levels of self-efficacy. Nevertheless, the regression slopes differed in their degrees of tilt by the levels of self-efficacy. Task values predicted test stress far more strongly at low levels of self-efficacy (for attainment value, $b = .18, p < .01$; for intrinsic value,

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* $p < .05$; ** $p < .01$; *** $p < .001$. 
For attainment value, $b = .18$, $p < .01$; for utility value, $b = .18$, $p < .01$) than at high levels of self-efficacy (for attainment value, $b = .06$, $p < .01$; for intrinsic value, $b = .07$, $p < .01$; for utility value, $b = .03$, ns).

Figure 9.3 Relationship of task values with test stress at different levels of self-efficacy. H_SE, high self-efficacy; M_SE, average self-efficacy; L_SE, low self-efficacy. (a) Relationship of attainment value with test stress. (b) Relationship of intrinsic value with test stress. *$p < .05$; **$p < .01$. (continued)
We explored whether there is interaction between specific task values and perceived competence as a possible amplifier of self-worth threat. We used self-handicapping strategy use and test stress as indicators of consequences of self-worth threat. Specifically, in a series of hierarchical regression analyses, we examined: (1) the interaction between task values and self-efficacy on students' use of self-handicapping strategies; (2) the interaction between task values and self-efficacy on perceived test stress; and (3) the distinctive predictive role of each specific task value. Results generally lend support to our hypotheses. We found significant interaction between task values and self-efficacy on both self-handicapping and test stress, which represented cognitive and emotional costs of self-worth threat, respectively. It is intriguing that the interaction pattern between task values and self-efficacy on these two types of costs differed, indicating that self-worth threat may have differential impact on students' cognitive and emotional responses.

First, consistent with our hypotheses, task values demonstrated differing relationships with self-handicapping, depending on students' self-efficacy. When task values were high, students tended to use less self-handicapping strategies on average. However, when self-efficacy was low, perceiving higher values tended to increase students' use of self-handicapping strategies.

![Figure 9.3 (continued)](image-url)

*Figure 9.3 (continued)* Relationship of task values with test stress at different levels of self-efficacy. H_SE, high self-efficacy; M_SE, average self-efficacy; L_SE, low self-efficacy. (c) Relationship of utility value with test stress. *p < .05; **p < .01.

**Discussion**

We explored whether there is interaction between specific task values and perceived competence as a possible amplifier of self-worth threat. We used self-handicapping strategy use and test stress as indicators of consequences of self-worth threat. Specifically, in a series of hierarchical regression analyses, we examined: (1) the interaction between task values and self-efficacy on students’ use of self-handicapping strategies; (2) the interaction between task values and self-efficacy on perceived test stress; and (3) the distinctive predictive role of each specific task value. Results generally lend support to our hypotheses. We found significant interaction between task values and self-efficacy on both self-handicapping and test stress, which represented cognitive and emotional costs of self-worth threat, respectively. It is intriguing that the interaction pattern between task values and self-efficacy on these two types of costs differed, indicating that self-worth threat may have differential impact on students’ cognitive and emotional responses.

First, consistent with our hypotheses, task values demonstrated differing relationships with self-handicapping, depending on students’ self-efficacy. When task values were high, students tended to use less self-handicapping strategies on average. However, when self-efficacy was low, perceiving higher values tended to increase students’ use of self-handicapping strategies.
This pattern more clearly evidenced itself with respect to attainment and intrinsic values than with utility value. When students held high self-efficacy, perceiving higher values reduced self-handicapping. These results indicate that the combination of high value and low perceived competence poses a particularly strong threat to students’ sense of self-worth and self-efficacy functions as a buffer against self-worth threat.

Second, task values also demonstrated differing relationships with test stress, depending on students’ self-efficacy. The pattern was different from the one observed with self-handicapping, though. Students felt higher levels of test stress as they perceived higher task value, whether it was attainment, intrinsic, or utility value. Nonetheless, students who lacked confidence felt significantly higher test stress, as they perceived higher task values, compared to those who were armed with strong confidence. Whereas self-efficacy functioned as an effective buffer against self-worth threat when the responses involved a cognitive strategy such as self-handicapping, it was not as effective in buffering self-worth threat on emotional reactions such as test stress. The findings imply that the nature of interaction between task values and self-efficacy may vary with the types of consequences resulting from self-worth threat. The negative influence of high values on test stress seems to represent the following: (1) Values can be partly determined by external sources, although they can also be intrinsically generated, and (2) tests provide students with threat to their sense of worthiness in classroom contexts, which is more likely to manifest itself when students attach high values on academics.

Third, the present results did not fully support the idea that the three task values need to be more clearly distinguished because they were associated with essentially the same predictive pattern in our data. This issue requires further investigations, however, because evidence attesting to their empirical distinctiveness exists in the literature (Wigfield & Eccles, 1989, as cited in Wigfield & Eccles, 1992).

Limitations of the present study should also be noted. Our results from the hierarchical regression analyses produced small effects, albeit statistically significant. Considering the large sample size, such small effects challenge the substantive meaningfulness of the results. This limitation may be an inevitable one, however, because the pattern could actually emerge only among the extreme group of students who perceive high value and low perceived competence toward the tasks. In the present data, attainment and intrinsic values were assessed with a single item in reference to the domains of math and English, whereas utility value was assessed with multiple items in reference to school learning in general. This difference might have contributed to the slightly different patterns associated with the three task values in the prediction of self-handicapping strategy use.
CONCLUSION

In this chapter, we tried to provide a conceptual framework for understanding students’ approach toward achievement in relation to the self-worth protection motive in the classroom. By consulting the theoretical tenets and empirical evidence from studies within the expectancy-value paradigm and self-worth theory, we identified important individual differences and environmental and motivational amplifiers of self-worth threats and the possible costs associated with such threats. More important, we proposed the possibility of interaction between subjectively perceived task values and competence beliefs on perceptions of self-worth threat, suggesting that such threat would be the greatest in situations where students hold high task values that are not backed up by accompanying competence beliefs. Using self-handicapping strategy use and test stress as indicators of maladaptive adjustment and emotional responses resulted from self-worth threat, we presented preliminary empirical evidence supporting our theoretical conjecture.

We thus demonstrated once again that competence and values are key determinants of students’ outcomes in achievement-related settings (see Eccles & Wigfield, 2002, for a review). Competence beliefs are the core construct in individuals’ self-worth and the influence of perceived competence on students’ self-worth becomes stronger when the tasks are valued by themselves and others (Covington, 2009). Low perceived competence in achieving academic tasks that are highly valued in school presents a particularly devastating threat to students’ sense of own worthiness. Furthermore, it did not matter much which types of values were in question because almost the same pattern was observed across the attainment, intrinsic, and utility values.

It should be noted that we are not arguing that placing high values on academic tasks is a negative thing. Values, in general, have positive impacts on various adaptive outcomes in achievement-related settings. Many studies have provided strong evidence to this effect (e.g., Bong, 2001; Hulleman, Durik, Schweigert, & Harackiewicz, 2008; Liem, Lau, & Nie, 2008). High values are likely to play the devil, however, when they are imposed by significant others, including society (Knafo & Assor, 2007), and individuals do not possess the means (i.e., competence) to realize the benefit of accomplishing such valuable tasks. In the self-determination theory perspective, internalized motivation that grows out of internal sources is more likely to lead individuals to engage in a certain behavior than is introjected motivation that originates from external sources such as imposed values (Deci & Ryan, 2000). The combination of high values with low perceived competence, therefore, could place individuals’ self-worth at risk (Clever, Bear, & Juvonen, 1992).
Self-worth threats, when not adequately coped with, generate emotional, motivational, and cognitive costs. When students feel that their self-worth is on the line, they are more likely to undergo stress, disengage themselves from the tasks, and possibly employ defensive strategies that inevitably hurt learning. Our results show that students, when perceiving high importance in academic tasks, reduce their use of maladaptive strategies such as self-handicapping. This tendency was even stronger among students who felt highly self-efficacious. Students who lacked confidence in their capability to succeed academically, however, demonstrated an opposite pattern and relied on self-handicapping more strongly as the perceived importance of the tasks increased. These students also expressed increasing levels of test stress as they perceived not only higher importance but also higher interest in and usefulness of the tasks.

Then, how can students buffer themselves against self-worth threats? Covington (1984) discussed that the ideal way to prevent students from experiencing self-worth threats is to provide them with “additional sources” from which they can establish their worthiness. For example, effort can be the source of students’ sense of worthiness. By appreciating efforts regardless of performance levels, students could be relieved of the pressure that they should possess high ability. Providing students with noncompetitive, mastery-oriented classrooms, where intraindividual improvement, mastery of skills, and attainment of individual goals are highlighted, would reduce the risk factors to students’ self-worth (Covington, 1984). By creating a non-competitive classroom atmosphere, teachers can change the classrooms into a place where students can put less focus on ability and orient themselves toward approaching success rather than avoiding failure.

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