Perfectionism and Motivation of Adolescents in Academic Contexts

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We examined the nature of self-oriented and socially prescribed perfectionism in relation to the motivation and achievement of 306 Korean 7th graders. We also tested the mediating role of domain-specific academic self-efficacy and achievement goals in the relationships between perfectionism and achievement-related outcomes across math and English. In the direct path model, self-oriented perfectionism related positively to academic achievement and negatively to acceptability of cheating and academic procrastination. Socially prescribed perfectionism, in contrast, related positively to test anxiety, acceptability of cheating, and academic procrastination. In the mediation models, self-oriented perfectionism related consistently and positively to academic self-efficacy, a mastery goal, and a performance-approach goal in the domain. Socially prescribed perfectionism related consistently and positively to a performance-approach and a performance-avoidance goal. Academic self-efficacy and a mastery goal mediated the paths from self-oriented perfectionism to acceptability of cheating, academic procrastination, and achievement, while a performance-avoidance goal in English mediated the path from socially prescribed perfectionism to test anxiety. Many of the paths from perfectionism to outcomes were thus mediated by domain-specific motivation. The direct paths from the 2 perfectionism dimensions to academic procrastination remained significant, however, even in the presence of the intervening motivation variables.

Keywords: perfectionism, self-efficacy, achievement goals, anxiety, procrastination

Perfectionism refers to the personality trait of setting difficult goals and evaluating one’s own performance critically against these goals (Flett, Hewitt, & Dyck, 1989; Frost & Marten, 1990). Its strong associations with diverse symptoms of psychological maladjustment and disorders have made it the topic of extensive research in the past (Hewitt & Flett, 1991). There is reason to suspect, however, that perfectionism is a multidimensional construct and may not always be a harmful characteristic to possess (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). For example, perfectionism influences goal-setting. Goals determine the direction of behavior, strength of effort and persistence, and quality of final performance (Locke & Latham, 2002). The motivation and achievement of perfectionists, who strive for challenging goals, would be different from those of nonperfectionists.

Despite the apparent relevance to achievement striving, only a small number of studies to date have tested how perfectionism operates in academic settings. Recent evidence demonstrates that certain forms of perfectionism could prove beneficial in learning situations (see Fletcher & Speirs Neumeister, 2012, for review).

The literature, however, is yet to offer concrete answers to questions such as how perfectionism relates to motivation in school, what the nature of relationships is between perfectionism and achievement-related outcomes, and which type of perfectionism is actually conducive to learning. The few available studies conducted in academic contexts have involved college students in North America (Mills & Blankstein, 2000; Verner-Filion & Gaudreau, 2010), which further limits generalizability of the findings to adolescent populations and other cultures.

We tried to address these issues by investigating the relationships between different types of perfectionism and indexes of academic motivation and performance in a group of Korean adolescent students. More broadly, we were interested in the extent domain-specific motivational beliefs mediated the effects of personality dispositions on achievement-related outcomes. We first examined the dimensional characteristics of perfectionism in relation to test anxiety, acceptability of cheating, academic procrastination, and achievement, to explore the nature of multidimensional perfectionism in academic contexts. We then tested the role of academic self-efficacy and achievement goals as potential mediators in these associations.

Self-Oriented and Socially Prescribed Perfectionism

Perfectionism as a Multidimensional Construct

Frost et al. (1990) claimed that a unidimensional definition of perfectionism, as the tendency to set excessively high personal standards, cannot distinguish highly competent and successful “normal” perfectionists from “neurotic” perfectionists. They viewed perfectionism to be multidimensional, comprising six correlated dimensions: high personal standards, a concern over mistakes in
performance, feelings of doubt about quality of actions, valuing of parents’ expectations, apprehension of parents’ criticism of performance, and an overemphasis on organization, neatness, and order. All six dimensions, except for the organization dimension, correlated positively with fear of failure. While the concern over mistakes and doubts about actions dimensions correlated positively with maladaptive symptoms such as depression, obsessive-compulsive disorder, feelings of guilt, and procrastination, the personal standards and organization dimensions did not. The personal standards dimension even correlated negatively with procrastination and positively with self-efficacy. The parental expectations and parental criticism dimensions are now considered antecedents rather than functional dimensions of perfectionism (Fletcher, Shim, & Wang, 2012).

Hewitt and Flett (1991) also viewed perfectionism as a multidimensional construct but with a different set of dimensions. They claimed that there are three dimensions of perfectionism that interact with different types of stressors to produce distinct outcomes: self-oriented, other-oriented, and socially prescribed perfectionism. Self-oriented perfectionists impose high standards upon themselves, evaluate their own performance against these standards, and strive to perform flawlessly to meet these standards. Other-oriented perfectionists enforce high standards upon others, evaluate others’ performance against those standards, and insist others perform perfectly to meet those standards. These two dimensions are differentiated from socially prescribed perfectionism based on who takes charge of setting the standards. Whereas self- and other-oriented perfectionists strive to satisfy, or demand others to satisfy, the standards that they generate, socially prescribed perfectionists strive to meet the standards that significant others, such as parents, impose on them (Stoeber, Feast, & Hayward, 2009).

Because the conceptualization of Hewitt and Flett (1991) deals with both intra-individual and interpersonal aspects of perfectionism, it appears more pertinent to the study of children and adolescents than that of Frost et al. (1990). Among the three types of perfectionism, other-oriented perfectionism seems least relevant because children and adolescents are more often targets of other-oriented perfectionism than they are other-oriented perfectionists themselves. We were thus only interested in self-oriented and socially prescribed perfectionism in this research.

Perfectionism in East Asian Cultures

Because the present sample consisted of Korean adolescents, it is important to inspect at the outset features in East Asian cultures that may render the distinction between self-oriented and socially prescribed perfectionism particularly consequential. Collectivism is one such feature. Individuals in countries such as Korea, China, and Japan tend to embrace interdependent self-construal (Heine, 2001; Markus & Kitayama, 1991; Oishi & Diener, 2001). They strive hard to maintain group harmony by paying keen attention to in-group members’ feelings, opinions, and actions, trying to please and to avoid displeasing significant others, and conforming to established norms and standards. For adolescents in East Asian cultures, judgments of success and failure in school would depend heavily on what parents, teachers, and society in general deem satisfactory.

Another relevant feature in East Asian cultures is the high standards of academic excellence that parents impose on their child. In a study by Okagaki and Frensch (1998), Asian parents reported significantly higher “expected” as well as “ideal” educational attainments for their child than did European American and Latino parents. Asian parents also displayed significantly stronger negative reactions to the hypothetical scenarios of their child receiving grades of B’s and C’s instead of A’s. At the same time, children in East Asian cultures have a strong sense of gratitude and indebtedness to their parents (Park & Kim, 2006). A strong sense of obligation coupled with high parental standards could increase socially prescribed perfectionism in Asian students.

Castro and Rice (2003) reported that Asian American college students indeed scored significantly higher on Frost et al.’s (1990) perfectionism dimensions of parental criticism, concerns over mistakes, and doubts about actions than did European and African American students. They also scored significantly higher on parental expectations and personal standards than did European American students. The two parental dimensions are strong correlates of socially prescribed perfectionism (Flett, Sawatzky, & Hewitt, 1995). Furthermore, perfectionism accounted for 27% of the variance in Asian American students’ grade-point averages (GPAs), compared to only 7% in European American students’ GPAs. Socially prescribed perfectionism is hence judged to be a particularly meaningful construct to examine in relation to Asian students’ school achievement.

Perfectionism in Academic Contexts

Perfectionism as a Predictor of Achievement-Related Outcomes

Self-oriented and socially prescribed perfectionism typically demonstrate moderate to strong positive correlations to each other. Even so, socially prescribed perfectionism correlates with a broader array of psychological maladjustments than does self-oriented perfectionism. In Hewitt et al. (2002), for example, both types of perfectionism correlated positively with anxiety and depression. Socially prescribed perfectionism further correlated positively with outward expression of anger and social stress and negatively with anger suppression. Based on these results, Hewitt et al. concluded that both self-oriented and socially prescribed perfectionism make children and adolescents vulnerable to maladjustment, albeit to differential degrees.

A picture coming out of the academic domain, however, is somewhat different. Noting the unambiguous bearing of perfectionism on achievement behavior, several investigators have tried to unearth the psychological and behavioral profiles associated with each perfectionism dimension in academic settings. Because perfectionists’ striving to attain difficult goals often results in negative affect and counterproductive behavior (Einstein, Lovibond, & Gaston, 2000), variables such as anxiety and procrastination, along with achievement, have been closely examined in relation to perfectionism. Anxiety and procrastination are major impediments to successful coping and performance (Steel, 2007; Zeidner, 1994). It is important to learn, therefore, if perfectionism actually elevates these negative psychological and behavioral responses in achievement situations and, if so, why.
Unfortunately, relationships of the two perfectionism dimensions with anxiety and procrastination have been less than straightforward. In a study by Mills and Blankstein (2000), both self-oriented and socially prescribed perfectionism correlated positively with test anxiety and extrinsic motivation, consistent with the observation of Hewitt et al. (2002). However, self-oriented perfectionism in their study also correlated positively with adaptive motivation and learning process variables such as self-efficacy, task value, use of various cognitive strategies, and effective resource management. Socially prescribed perfectionism did not correlate significantly or correlated negatively with these variables. In Einstein et al. (2000), only socially prescribed perfectionism correlated with anxiety and depression, although both perfectionism dimensions correlated positively with stress.

Procrastination is another variable frequently studied in relation to multidimensional perfectionism. Socially prescribed perfectionism correlates with a general tendency of procrastination as well as academic procrastination (Flett, Blankstein, Hewitt, & Koledin, 1992). Negative perfectionism, which is analogous to socially prescribed perfectionism, also correlates positively with academic procrastination, while positive perfectionism, which is analogous to self-oriented perfectionism, does not (Burns, Dittmann, Nguyen, & Mitchelson, 2000). Contrary to these findings, a meta-analysis by Steel (2007) showed that the perfectionism-procrastination correlation was negligible ($r = -.03$). This discrepancy likely owes to the definition of perfectionism in Steel’s review, which comprised only of self- and other-oriented perfectionism. Socially prescribed perfectionism was classified as an index of fear of failure, which did correlate positively with procrastination ($r = .18$). Further empirical tests will help clarify the relationship between perfectionism and procrastination.

Researchers have also been interested in the relationship between perfectionism and cheating for obvious reasons. Cheating provides a means to attain an otherwise impossible goal. Earlier, we described that Asian parents put high academic demands on their child (Okagaki & Frensch, 1998), and Asian students, in turn, perceive high parental expectations and parental criticism (Castro & Rice, 2003) that are antecedents of socially prescribed perfectionism. Socially prescribed perfectionism correlates with a general tendency of procrastination as well as academic procrastination (Flett et al., 1995). High parental pressure functions as a source of conflict between Korean parents and children, which increases acceptability of cheating behavior among Korean adolescents (Bong, 2008). Still, the results on cheating have not been fully consistent, either. Vansteenkiste et al. (2010) found that the personal standards dimension of perfectionism correlated negatively with acceptability of cheating as well as actual cheating behavior. The concern over mistakes and doubts about actions correlated negatively with neither of them. Nathanson, Paulhus, and Williams (2006), however, failed to find a significant relationship between self-oriented or socially prescribed perfectionism and cheating behavior.

When it comes to academic performance, being self-oriented perfectionists clearly helps. Bieling, Israeli, Smith, and Antony (2003) reported that adaptive perfectionism, which included self-oriented perfectionism, correlated positively with both positive and negative affect toward the recent exam, future plans to study more, grade goals for the current and future exams, and actual exam performance. Maladaptive perfectionism, which included socially prescribed perfectionism, also correlated positively with negative affect toward the exam. However, unlike adaptive perfectionism, it correlated negatively with positive affect toward the exam or exam preparedness. Other studies similarly depict the performance benefits of self-oriented perfectionism. Stoeber and Rambow (2007) observed that students with an adaptive form of perfectionism attained significantly higher academic achievement compared to those with a maladaptive form of perfectionism. Verner-Filion and Gaudreau (2010) also reported that self-oriented perfectionism positively predicted academic satisfaction and grade point averages for college students, whereas socially prescribed perfectionism negatively predicted them.

Given the negative effect anxiety has on performance, it is puzzling that self-oriented perfectionism, which often correlates positively with anxiety, enhances performance. The answer may come from the trait-state distinction. When Zeidner (1994) examined the relationships between multiple components of trait anxiety and state anxiety, only social evaluation trait anxiety predicted state anxiety before the exam, directly and indirectly via academic stress. In Mills and Blankstein’s (2000) study described earlier, self-oriented perfectionism no longer correlated with test anxiety, when its covariance with socially prescribed perfectionism was controlled for. These results suggest that socially prescribed perfectionism increases state anxiety, while self-oriented perfectionism does not, even though both correlate with trait anxiety (Flett, Hewitt, Endler, & Tassone, 1994). This conjecture requires a mediating process that weakens the link of self-oriented perfectionism to state anxiety, which we describe in the next section.

To summarize, self-oriented perfectionism demonstrates positive associations with academic achievement and null or negative associations with test anxiety, academic procrastination, and acceptability of cheating. Socially prescribed perfectionism, on the contrary, demonstrates negative associations with achievement and positive associations with detrimental indexes in academic settings.

**Academic Motivation as a Mediator Between Perfectionism and Outcomes**

Self-oriented perfectionism, therefore, appears to play at least a more positive than negative function in the learning process. However, more evidence is needed to conclude that it is indeed an adaptive form of perfectionism for learners in academic contexts. In addition, most of the few available studies simply contrasted relationships of the two perfectionism dimensions with various outcomes without probing why they were associated with different outcomes or with the same outcomes in different manners. Miquelon, Vallerand, Grouzet, and Cardinal (2005) argued that failure to integrate mediating motivational processes in the relationships between perfectionism and outcomes has been responsible for the ambiguous effects associated with self-oriented perfectionism. In their study, self-oriented and socially prescribed perfectionism for college students correlated positively with each other as well as with neuroticism (Study 2). When motivational constructs were incorporated as mediators in path analysis, however, the two displayed completely different predictive patterns. Self-oriented perfectionism positively predicted self-determined academic motivation, which in turn positively predicted academic adjustment and negatively predicted psychological adjustment difficulties. Socially prescribed perfectionism, on the contrary, pos-
Perfectionism and Academic Motivation

Perfectionism and Academic Self-Efficacy

Among many motivational constructs, one plausible mediator between perfectionism and learning outcomes is academic self-efficacy. Self-efficacy represents subjective convictions for successfully carrying out courses of action to achieve desired outcomes (Bandura, 1977). Beliefs of self-efficacy are tailored to particular tasks, activities, or domains of functioning. Academic self-efficacy, therefore, refers to learners’ subjective convictions for successfully performing specific academic tasks at designated levels (Schunk, 1991). The central role academic self-efficacy plays in determining the strength of motivation and quality of achievement-related outcomes in so many different settings and subject areas (Multon, Brown, & Lent, 1991; Pajares, 1996) strongly suggests that self-efficacy functions as a mediator between stable personality characteristics such as perfectionism and outcomes in specific learning contexts.

Perfectionism and academic self-efficacy would most likely be intertwined with each other through the psychological mechanisms of goal-setting and self-evaluation. Self-oriented perfectionism, by definition, involves setting high goals and striving to attain them (Hewitt & Flett, 1991). Bandura (1997) asserted that acts of setting and pursuing challenging personal goals and aspirations foster goals of self-efficacy, a claim that has received strong empirical support from both self-efficacy and goal-setting literatures. As individuals pursue higher goals, their self-efficacy and performance improve correspondingly (Locke & Latham, 2002). Academic self-efficacy mediates the connection between goals and eventual performance as students work toward their goals, monitoring their progress and developing necessary skills (Schunk, 1996). Self-efficacy of learners is best promoted when they set challenging goals and engage in frequent self-evaluations of their goal progress (Schunk & Ertmer, 1999).

Self-oriented perfectionists, who are in pursuit of difficult self-set goals, would be vigilant about assessing their performance against these goals because goals also serve as standards with which to evaluate performance (Locke & Latham, 2002). Accomplishment of proximal subgoals while striving to achieve the difficult final goal provides these perfectionistic learners with mastery experiences, which constitute the most potent source of self-efficacy information (Bandura, 1977). The end product is a stronger sense of self-efficacy, accompanied by intrinsic interest, self-satisfaction, and enhanced performance (Bandura & Schunk, 1981).

Trying to satisfy difficult standards is a hallmark of not only self-oriented perfectionism but also socially prescribed perfectionism. Yet socially prescribed perfectionists do not necessarily enjoy the profit of goal pursuit in the form of improved self-efficacy. According to Latham and Locke (1991), the effects of goal-setting are moderated by the degree of goal commitment. For individuals who are high in goal commitment, performance improves linearly with goal difficulty, presumably with the help of augmented perceptions of self-efficacy. For those who are low in goal commitment, however, performance shows no systematic relationship with goal difficulty. Goal commitment is higher when the goals are attainable and individuals participate in setting them, compared to when they are impossible to attain and assigned by others. Socially prescribed perfectionists strive to fulfill excessively high standards that are imposed by others. Goal commitment of socially prescribed perfectionists, therefore, would not be as strong as that of self-oriented perfectionists and the weaker goal commitment compromises the self-efficacy benefit they should otherwise reap from their exercise mastery experiences.

Supporting these conjectures, Mills and Blankstein (2000) observed that self-oriented perfectionism demonstrated a positive correlation with academic self-efficacy for learning and performance in an introductory psychology course. Socially prescribed perfectionism exhibited a nonsignificant correlation with academic self-efficacy, which became significant and negative when only the unique variance was considered. Similarly, Van Yperen (2006) reported that a subdimension of self-oriented perfectionism, the importance of being perfect, correlated positively with academic self-efficacy, while a subdimension of socially prescribed perfectionism, others’ high standards, correlated negatively with it.

Evidence of mediation by self-efficacy was also observed in a study by Dunkley, Zuroff, and Blankstein (2003). The researchers hypothesized that self-blame, lower self-efficacy, and perceived criticism from others would mediate the relationship between self-critical perfectionism and avoidant coping. Personal standards perfectionism, an adaptive form of perfectionism that included self-oriented perfectionism, was distinguished from self-critical perfectionism, a maladaptive form of perfectionism that included socially prescribed perfectionism. Only self-critical perfectionism displayed a significant negative correlation with self-efficacy. Supporting the authors’ hypothesis, higher self-critical perfectionism predicted lower self-efficacy, which in turn predicted greater avoidant coping in the form of denial and disengagement from stressful events. As the latter two studies assessed self-efficacy for life events, a direct test of academic self-efficacy as a mediator between perfectionism and learning outcomes is required.

Perfectionism and Achievement Goals

Achievement goals have received even greater attention than academic self-efficacy has as potential mediators of perfectionism-outcome relationships in the academic domain. Achievement goals represent underlying purposes of achievement-related behavior in specific achievement situations (Dweck & Leggett, 1988). Although disagreement exists on the exact definition and functions of each achievement goal, a mastery goal has emerged as a positive predictor of interest, while a performance-approach goal of pursuing normative competence has emerged as a positive predictor of performance. A performance-avoidance goal of avoiding norma-
tive incompetence has been a consistent negative predictor of both outcomes (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010).

A number of parallels between the literatures on perfectionism and achievement goals delineate how these constructs may be relevant to each other. Self-oriented perfectionism arises from a motive to achieve, while socially prescribed perfectionism results from fear of failure (Speirs Neumeister, 2004). An achievement motive is also an antecedent of mastery and performance-approach goals, while fear of failure is an antecedent of performance-approach and performance-avoidance goals (Elliot & Church, 1997). Sharing the same motive, self-oriented perfectionists would more likely pursue the two approach-oriented goals, whereas socially prescribed perfectionists would more likely pursue the two performance-oriented goals.

Speirs Neumeister (2004) interviewed gifted college students identified as either self-oriented or socially prescribed perfectionists and found support for the hypothesized links. Self-oriented perfectionists were driven by a strong achievement motive and adopted either a mastery goal of learning new things and improving oneself or a performance-approach goal of doing better than others. These students sought out challenging academic tasks and prepared far in advance for assignments and exams. Socially prescribed perfectionists, in comparison, were driven by a strong fear of failure and adopted either a performance-approach goal of validating one’s ability or a performance-avoidance goal of avoiding doing worse than others. These students procrastinated to exonerate themselves from the implications of potential failure.

The two perfectionism dimensions exhibited different associations with measures of self-criticism as well (Trumpeter, Watson, & O’Leary, 2006). On the one hand, both perfectionism dimensions correlated positively with internalized self-criticism, a negative evaluation of the self due to failure to meet self-set standards. On the other hand, only socially prescribed perfectionism correlated positively with externalized self-criticism, a negative evaluation of the self due to failure to perform as well as others. These findings suggest that the nature of competence evaluation associated with each perfectionism dimension might provide another mechanism through which perfectionism promotes particular achievement goals. Self-oriented perfectionists, who evaluate their performance solely against self-set standards, would likely be drawn to a mastery goal, which defines competence in an absolute sense in reference to goals and standards (Elliot & McGregor, 2001; Pintrich, 2000). Socially prescribed perfectionists, who evaluate their performance against that of others, would find performance-approach and performance-avoidance goals more attractive because the normative definition of competence (Elliot & McGregor, 2001; Pintrich, 2000) aligns well with the way socially prescribed perfectionists evaluate competence.

Verner-Filion and Gaudreau (2010) not only replicated the proposed links between perfectionism and achievement goals for college students but also presented evidence of mediation by achievement goals. They assessed perfectionism and achievement goals before midterm exams and academic satisfaction and grade point averages after midterm exams. Self-oriented perfectionism positively linked to mastery, performance-approach, and performance-avoidance goals. It also positively predicted academic satisfaction and grade point averages. Socially prescribed perfectionism negatively linked to mastery goals and positively linked to performance-approach and performance-avoidance goals. It negatively predicted academic satisfaction and grade point averages. The paths between perfectionism and academic satisfaction were mediated by a mastery goal and those between perfectionism and grade point averages were mediated by a performance-approach goal.

More specifically, as students’ self-oriented perfectionism became stronger, they were better positioned to experience improved academic satisfaction and higher grade point averages. Adoption of a mastery goal provided one channel through which self-oriented perfectionism resulted in increased academic satisfaction, while adoption of a performance-approach goal resulted in higher academic achievement for self-oriented perfectionism. Quite the contrary, as students’ socially prescribed perfectionism became stronger, they experienced decreased academic satisfaction and lower academic achievement. Socially prescribed perfectionism made pursuit of a mastery goal less likely, which partly explained why it was associated with reduced academic satisfaction. However, socially prescribed perfectionism also meant a greater likelihood of adopting a performance-approach goal, which predicted higher, not lower, subsequent grade point averages. These results illustrate complex routes by which different types of perfectionism connect to achievement-related outcomes and highlight the benefits of incorporating motivational variables such as achievement goals in the relationships between perfectionism and learning outcomes.

Self-Efficacy and Achievement Goals as Predictors of Achievement-Related Outcomes

In our review of the literature presented earlier, we focused on test anxiety, academic procrastination, cheating, and academic performance among diverse outcomes that perfectionism predicts in learning situations, due to their direct implications for students’ achievement striving. These achievement-related outcomes are also the ones that self-oriented and socially prescribed perfectionism have demonstrated contrasting associations in past research. Evidence diverges on several of these relationships, however, which would benefit from additional empirical tests. The relationships that self-efficacy and each of the achievement goals display with the same outcomes, in comparison, have been far more consistent.

According to the extant literature, academic self-efficacy is a negative predictor of test anxiety (Bandalos, Finney, & Geske, 2003) and academic procrastination (Steel, 2007; Wolters, 2003, 2004) and a positive predictor of achievement (Bong, 2005; Wolters, 2003, 2004). A mastery goal is a negative predictor of test anxiety (Bandalos et al., 2003), acceptability of cheating (Murdock, Miller, & Kohlhardt, 2004), and academic procrastination (Wolters, 2004), while a performance-approach goal is a positive predictor of acceptability of cheating (Murdock et al., 2004) and achievement (Daniels et al., 2009; Hulleman et al., 2010; Wolters, 2004). In Murdock et al. (2004), performance-approach and performance-avoidance goals formed a single factor. It is possible, therefore, that the avoidance component was primarily responsible for the positive path from the performance goal to acceptability of cheating in their study. However, Anderman, Griesinger, and Westerfield (1998) showed that an extrinsic goal, a variant of a
performance-approach goal, was also a significant positive predictor of acceptability of cheating.

The link between a performance-approach goal and anxiety is mixed, with early studies that did not distinguish between approach and avoidance components reporting a positive path (Bandalos et al., 2003; Daniels et al., 2009) and later studies reporting a nonsignificant path (Sideridis, 2005). A performance-avoidance goal is a positive predictor of anxiety (Pekrun, Elliot, & Maier, 2006; Sideridis, 2005), acceptability of cheating (Bong, 2008; Murdock et al., 2004), and academic procrastination (Wolters, 2004) and a negative predictor of achievement (Bong, 2005; Huleman et al., 2010; Sideridis, 2005).

Regarding the relationships among the motivational constructs, different opinions exist in the literature regarding the causal precedence between academic self-efficacy and achievement goals. Dweck and Leggett (1988) viewed perceived competence mainly as a moderator of the achievement goal effects. Others treat self-efficacy as an outcome of achievement goals (e.g., Middleton & Midgley, 1997). Self-efficacy theorists maintain that a core component of self-efficacy is perceived competence (Bong & Skaalvik, 2003; Schunk & Pajares, 2005), which achievement goal theorists recognize as an antecedent of all achievement goals (e.g., Elliot, & Church, 1997). From a theoretical standpoint, then, it is most plausible to regard self-efficacy as causally predominant to achievement goals. Supporting this conjecture, changes in the academic self-efficacy of Korean high school students predicted changes in their subsequent achievement goals but not the other way around (Bong, 2005). Further, self-efficacy in the preceding semester was a significant predictor of the mastery and performance-avoidance goals in the following semester but not of the performance-approach goal. Based on these findings, we expected academic self-efficacy to precede achievement goals in our model.

Present Hypotheses

We tried to address two primary research questions in this study: (a) Is self-oriented perfectionism adaptive, and socially prescribed perfectionism maladaptive, in the academic domain? and (b) Do achievement goals and academic self-efficacy mediate the relationships between perfectionism and achievement-related outcomes? Assuming that the answer to Question b is yes, we were also interested in uncovering the nature of the mediation by each motivational construct in the perfectionism-outcome associations.

To answer Question a, which would help ascertain the dimensional characteristics of perfectionism, we tested the direct relationships between perfectionism and outcome variables. The left panel of Figure 1 presents the hypothesized paths. The paths that have consistent support in the literature or were expected on theoretical grounds are indicated with solid lines, whereas those that lack consistent support, with the possibility of a null relationship, are indicated with dotted lines. To answer Question b, which would substantiate the hypothesized mediation of the perfectionism effects by motivational constructs and clarify the nature of such mediation, we tested the indirect relationships between perfectionism and outcome variables via academic self-efficacy and achievement goals. The right panel of Figure 1 presents the hypothesized mediation. Again, consistency of theoretical and empirical support in the literature for each hypothesized path is indicated by solid and dotted lines.

Our main interest in this research was in the mediation model. If perfectionism maintains its direct links to the various achievement-related outcomes in the model, it may mean that the effects of stable personality characteristics on academic outcomes are too strong to be mediated by domain-specific motivation. Although such results would be inconsistent with the contemporary literature on motivation (e.g., Elliot & Church, 1997), perfectionism might just be one exception to this trend. Conversely, if domain-specific motivational constructs successfully mediate the paths between perfectionism and outcomes, this would once again highlight the functional centrality of motivational beliefs in determining the learning outcomes in specific achievement situations (e.g., Pajares, 1996).

Figure 1. Hypothesized positive (+) and negative (−) paths and mediation by academic self-efficacy and achievement goals. Dotted paths indicate a possibility of nonsignificant relationships. Shaded boxes indicate variables assessed in reference to math and English. SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism; SE = academic self-efficacy; MAP = mastery goal; PAP = performance-approach goal; PAV = performance-avoidance goal; CHT = acceptability of cheating; ANX = test anxiety; PROC = academic procrastination; ACH = achievement scores.
By testing complex interrelationships between perfectionism, motivation, and major achievement-related outcomes, we were also hoping that the results might shed light on the nature of not only perfectionism but also a performance-approach goal. Currently, a performance-approach goal is associated with mixed effects but the reasons behind its positive and negative effects have not been clearly understood (Senko & Harackiewicz, 2005). The way in which each perfectionism dimension predisposes students to adopt a particular achievement goal in academic settings could allow us to generate inferences regarding one such mechanism.

Method

Participants and Procedures

Data were collected from 306 seventh graders attending a public middle school in a metropolitan city near Seoul, Korea. This school serves middle-income families and is large in scale with 10 to 12 classes at each grade-level. Ages of the participants ranged from 12 years and 5 months to 13 years and 4 months at the time of the survey. Education in 6 years of elementary school and 3 years of middle school is compulsory in Korea. The seventh grade marks the first year after the transition to middle school.

Middle school students take a nationwide, standardized competency test at the end of their senior year, which they must pass to advance to academic-track high schools. Scores on this test also determine their eligibility to enter select high schools. Flett et al. (1994) showed that relationships of self-oriented and socially prescribed perfectionism with other variables change depending on the degree of perceived evaluative threat. Because we were interested in the function of perfectionism under normal academic circumstances, seventh graders who were yet to experience elevated test stress were deemed an appropriate target for this research.

Surveys were administered during regular classroom hours, several days before final exams. We assured students of confidentiality of their responses. Data from 304 students (148 girls, 156 boys) were analyzed, excluding two students with too many missing responses.

Measures

Students responded to items on a 5-point Likert-type scale with 1 indicating strongly disagree and 5 strongly agree for all but the academic procrastination scale, which had 1 indicating never procrastinate and 5 always procrastinate. All scales had been translated and validated in Korean in previous research (see below). The Cronbach’s αs obtained in the present study are reported in Table 1.

Academic self-efficacy and achievement goals were assessed in reference to the specific academic subjects of math and English because, (a) whereas academic motivation is generally domain-specific, academic self-efficacy (Bong, 1997; Pajares, 1996) and achievement goals (Bong, 2001) contain particularly strong domain-specific components; (b) motivation in math and that in English are distinct from each other (Bong, 1997; Marsh, Byrne, & Shavelson, 1988); and (c) testing the hypothesized mediation across two discrete subject matter areas would help ascertain generalizability of the hypothesized mediation.

Self-oriented and socially prescribed perfectionism. We used the Multidimensional Perfectionism Scale (MPS) by Hewitt and Flett (1991). The scale contains 15 items assessing self-oriented perfectionism (e.g., “I demand nothing less than perfection of myself”) and another 15 assessing socially prescribed perfectionism (e.g., “The people around me expect me to succeed at everything I do”). Both scales had demonstrated satisfactory internal consistency with αs above .85 in past research (Flett et al., 1995; Miquelon et al., 2005; Stoeber et al., 2009). The translated versions had functioned well among Korean college students as well (Seo & Synn, 2006; αs = .88 for self-oriented perfectionism and .77 for socially prescribed perfectionism).

Academic self-efficacy. We used five items in the self-efficacy subscale of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich & De Groot, 1990) to assess academic self-efficacy (e.g., “I’m certain I can understand the ideas taught in

<p>| Table 1 |
| Descriptive Statistics and Reliability of Scales |</p>
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<th>Variable</th>
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<tr>
<td>Test anxiety</td>
<td>3.59</td>
<td>1.03</td>
<td>.79</td>
<td>1–5</td>
<td>1.00</td>
<td>5.00</td>
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<td>5.00</td>
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<td>Academic procrastination</td>
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<td>.63</td>
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<td>1.00</td>
<td>5.00</td>
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<td>−0.10</td>
</tr>
<tr>
<td>Academic self-efficacy in math</td>
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<td>.94</td>
<td>1–5</td>
<td>1.00</td>
<td>5.00</td>
<td>0.01</td>
<td>−1.00</td>
</tr>
<tr>
<td>Academic self-efficacy in English</td>
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<td>.92</td>
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<td>5.00</td>
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<td>Mastery goal in math</td>
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<td>Mastery goal in English</td>
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<td>5.00</td>
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<td>.90</td>
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<td>1.00</td>
<td>5.00</td>
<td>−0.23</td>
<td>−0.81</td>
</tr>
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<td>Performance-approach goal in English</td>
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<td>5.00</td>
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<td>Performance-avoidance goal in math</td>
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<td>1.18</td>
<td>.80</td>
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<td>5.00</td>
<td>0.12</td>
<td>−0.94</td>
</tr>
<tr>
<td>Performance-avoidance goal in English</td>
<td>2.59</td>
<td>1.10</td>
<td>.76</td>
<td>1–5</td>
<td>1.00</td>
<td>5.00</td>
<td>0.23</td>
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<tr>
<td>Achievement score in math</td>
<td>57.44</td>
<td>27.21</td>
<td>0–100</td>
<td>3.80</td>
<td>100.00</td>
<td>−0.10</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td>Achievement score in English</td>
<td>69.83</td>
<td>24.48</td>
<td>0–100</td>
<td>12.00</td>
<td>100.00</td>
<td>−0.74</td>
<td>−0.55</td>
<td></td>
</tr>
</tbody>
</table>

Note. Min. = minimum; Max. = maximum; N = 304.
my subject class’). The translated version had demonstrated αs above .88 in various samples of Korean middle and high school students and correlated significantly with achievement goals, test anxiety, strategy use, perceived classroom goal structures, and academic achievement (Bong, 2005, 2008, 2009).

Achievement goals. Nine items were adopted from the achievement goal scale used in Elliot and McGregor (2001), which has three items each for mastery (e.g., “I want to learn as much as possible from this subject class”), performance-approach (e.g., “It is important for me to do better than other students in this subject class”), and performance-avoidance goals (e.g., “I just want to avoid doing poorly in this subject class”). The achievement goal scale had displayed αs ranging between .77 and .91 for the mastery goal, .90 and .94 for the performance-approach goal, and .73 and .89 for the performance-avoidance goal in their study. Scores on the scales had correlated significantly with motive dispositions, implicit theories of ability, perceived competence, anxiety, study strategies, and academic performance in past research (Cury, Elliot, Da Fonseca, & Moller, 2006; Elliot & McGregor, 2001; Pekrun et al., 2006). The translated scales had shown α ranging from .74 to .84, .61 to .92, and .65 to .78 for the mastery, performance-approach, and performance-avoidance goals, respectively, among Korean adolescents in various school subjects (Bong, 2005, 2008, 2009).

Test anxiety. We used the six-item test anxiety subscale of the MSLQ (Duncan & McKeachie, 2005; e.g., “When I take a test, I think about how poorly I am doing compared with other students”). The scale had proven internally consistent with α = .80 among college students (Mills & Blankstein, 2000; Pintrich, Smith, Garcia, & McKeachie, 1993). In previous research with sixth graders in the United States (Middleton & Midgley, 1997), the internal consistency estimate of this scale dropped to .68. The translated version had demonstrated a similar degree of internal consistency among Korean middle school students with α = .63 (Bong, 2009).

Acceptability of cheating. Three items in a scale used by Anderman et al. (1998) were modified to investigate cheating on tests (e.g., “Is it okay to cheat on tests?”) because cheating is most frequently discussed in test-taking contexts in Korea. The scale had displayed acceptable internal consistency with αs above .64 in U.S. middle and high school samples (Anderman et al., 1998; Murdock et al., 2004). The translated version had shown similar internal consistency estimates with α = .64 among Korean middle school students in past research (Hwang, 2010).

Academic procrastination. We administered the Procrastination Assessment Scale—Student (PASS; Solomon & Rothblum, 1984) that assesses the frequency (e.g., “Studying for exams: To what degree is procrastination on this task a problem for you?”) and perceived severity of academic procrastination (e.g., “To what degree is procrastination on this task a problem for you?”). We used only the frequency items in this study because the severity items behaved differently (κs ≤ .20). The scale had exhibited internal consistency estimates above .75 and correlated significantly with perfectionism, anxiety, and grade point averages in past research (Fritzschke, Young, & Hickson, 2003; Howell, Watson, Powell, & Buro, 2006; Milgram, Marshefsky, Sadeh, 1995). The translated version had demonstrated α = .87 among Korean college students (Synn, Park, & Seo, 2005). We only used tasks that are applicable to middle school contexts and modified the descriptions to make them more meaningful to middle school students. These tasks included completing homework (revised from “writing a term paper”), studying for exams, and keeping up weekly class materials (revised from “keeping up weekly reading assignments”).

Academic achievement. Final exam scores in math and English served as indexes of academic achievement. Scores on these exams could range from 0 to 100.

Overview of Analysis

Because our sample size was considered small for the number of parameters to be estimated in the model, we applied a three-stage approach for reducing the participants-to-parameters ratio to an acceptable level, so as not to obtain nonconvergent or improper solutions (Anderson & Gerbing, 1984). We first performed preliminary confirmatory factor analyses (CFAs) per construct. For evaluating model fit, we used several fit indexes in addition to the chi-square statistics, which are known to be sensitive to sample size. We applied the Tucker–Lewis index (TLI) greater than .90 (Bentler, 1990; Tucker & Lewis, 1973), the comparative fit index (CFI) greater than .95 (Hu & Bentler, 1999), and the root-mean-square error of approximation (RMSEA) less than .08 (Browne & Cudeck, 1993) as cutoff criteria for acceptable model fit.

Using the factor loadings, factor variances, and error variances and covariances from these models, we computed factor rho coefficients as reliability estimates (Raykov, 1997, 2004). We then created a reliability-driven composite score for each latent variable (Bentler, 2009) by fixing the error variance with a formula, \(1 - \text{scale reliability} \times \text{scale variance}\) (Hayduk, 1987). Using these composite scores, corrected for unreliability, in subsequent analyses substantially reduced the number of parameters to be estimated to a level appropriate to our sample size.

To answer Questions a and b presented above, we first ran a direct path model between perfectionism and outcomes. When the direct paths from perfectionism to outcome variables were significant, we proceeded to test a mediating model in which the paths from perfectionism to outcome variables were mediated by academic self-efficacy and achievement goals, as illustrated in Figure 1. Because academic self-efficacy and achievement goals were assessed separately in math and English, we tested two models, one with math-specific variables and the other with English-specific ones. The statistical significance of total indirect effects, involving all mediation paths linking one variable to the other, was tested by a bootstrapping method with 1,000 bootstrapping samples with 95% bias-corrected confidence intervals. When the total indirect effects proved significant, Sobel tests followed to examine the statistical significance of individual indirect paths involved (Kline, 2005, p. 162). All measurement models and path analyses were run with AMOS 7.0 (Arbuckle, 2006).

Results

Descriptive Statistics

Responses to negatively worded items were reverse-coded so that high scores represent greater possession of the construct under investigation. Skewness and kurtosis statistics indicated that responses to all items approximate normal distributions. Frequency of missing responses per item ranged between 0 and 4, with missing rates less than 1.3% across all items. Missing values were
imputed with series means. Table 1 reports descriptive statistics of the scales.

Mean scores of most scales ranged between 3 and 4 on a 1–5 response scale with no strong hint of floor or ceiling effects. The acceptability of cheating scale was an exception to this trend with \( M = 1.81 \). Given the socially undesirable nature of this variable, it is not surprising that students provided low agreement ratings on these items. Responses to all scales showed acceptable degrees of internal consistency as presented in Table 1, except for the acceptability of cheating and academic procrastination scales, which were associated with somewhat low \( \alpha \). We believe the small number of items (\( n = 3 \)) on these scales was responsible for the low reliability.

### Measurement Models

**Measurement models per construct.** We performed CFA for each construct with individual items as indicators at this stage. When the number of indicators rendered the model just-identified and hence not testable by itself, we combined theoretically related constructs (e.g., the three achievement goals) in a single model to gain degrees of freedom. Error covariances were allowed between items for the same construct when both of the following conditions were met: (a) The content or wording of the respective items justified the covariance, and (b) the modification indexes suggested not only statistically significant but also substantial improvement in model fit. Error covariances were added to the model at a time. Complete results from these preliminary CFAs are available from the first author upon request.

The model for self-oriented perfectionism demonstrated acceptable fit to the empirical data, \( \chi^2(83, N = 304) = 129.863, p < .01 \) (TLI = .939, CFI = .952, RMSEA = .043). The socially prescribed perfectionism scale had five items with low factor loadings (all \( \leq .20 \)) that failed to reach statistical significance (all \( p > .05 \)). Four of them were reverse-coded items (e.g., “Those around me...” (H11569/H11569)) and one was phrased in a negative way (i.e., “I find it difficult to meet others’ expectations of me”). These results indicate that the middle school respondents found these items unclear and different from the rest of the items. We thus excluded these items from further analyses. The final model fit the data well, \( \chi^2(30, N = 304) = 47.963, p < .05 \) (TLI = .951, CFI = .967, RMSEA = .044).

The model for test anxiety demonstrated acceptable fit, although the RMSEA value was slightly over the cutoff criteria, \( \chi^2(4, N = 304) = 12.691, p < .05 \) (TLI = .949, CFI = .980, RMSEA = .085). The model with acceptability of cheating and academic procrastination also displayed satisfactory fit indexes, \( \chi^2(8, N = 304) = 22.148, p < .01 \) (TLI = .914, CFI = .954, RMSEA = .076). The model for academic self-efficacy in math fit the data reasonably well, again with the RMSEA value slightly over the cutoff criteria, \( \chi^2(4, N = 304) = 12.586, p < .05 \) (TLI = .958, CFI = .979, RMSEA = .084). The model for academic self-efficacy in English demonstrated excellent fit, \( \chi^2(5, N = 304) = 8.785, p = .118 \) (TLI = .993, CFI = .997, RMSEA = .050). The achievement goal model in both math, \( \chi^2(24, N = 304) = 64.372, p < .001 \) (TLI = .956, CFI = .971, RMSEA = .075), and English, \( \chi^2(24, N = 304) = 47.517, p < .01 \) (TLI = .967, CFI = .978, RMSEA = .057), produced satisfactory fit indexes.

**Full measurement models.** Next, we tested measurement models in math and English with all variables. Fit indexes are not computed, as these models are just-identified with only a single indicator for each latent variable. Table 2 presents correlation coefficients among the variables. In previous research, the adaptive and maladaptive characteristics of perfectionism and any mediating process were best demonstrated in either partial correlations or path analysis. Therefore, we only describe some of the notable findings here.

Consistent with prior reports, self-oriented perfectionism and socially prescribed perfectionism correlated positively with each other (\( r = .56 \)). Both types of perfectionism also correlated positively with test anxiety, but the correlation was stronger with socially prescribed perfectionism (\( r = .45 \)) than with self-oriented perfectionism (\( r = .25 \)). Neither type of perfectionism correlated with acceptability of cheating. Whereas self-oriented perfectionism correlated negatively with academic procrastination (\( r = -.37 \)) and positively with achievement in both math (\( r = .24 \)) and English (\( r = .22 \)), socially prescribed perfectionism did not correlate with academic procrastination and only correlated positively with achievement in math (\( r = .15 \)).

The two perfectionism variables also exhibited different patterns of correlations with subject-specific motivation variables. The correlations were largely consistent with the extant literature. Self-oriented perfectionism correlated positively with academic

---

**Table 2**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>1. Self-oriented perfectionism</td>
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<td>.56***</td>
<td>.25***</td>
<td>-.15</td>
<td>-.37***</td>
<td>.38***</td>
<td>.44***</td>
<td>.50***</td>
<td>.24***</td>
<td>.24***</td>
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<td>.45***</td>
<td>.01</td>
<td>.03</td>
<td>.11</td>
<td>.22**</td>
<td>.52***</td>
<td>.39***</td>
<td>.15**</td>
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<td>—</td>
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<td>.06</td>
<td>-.01</td>
<td>-.04</td>
<td>.04</td>
<td>.42***</td>
<td>.37**</td>
<td>.01</td>
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<tr>
<td>4. Acceptability of cheating</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>1.00</td>
<td>.36***</td>
<td>-.20**</td>
<td>-.26***</td>
<td>.04</td>
<td>.11</td>
<td>-.19**</td>
</tr>
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<td>—</td>
<td>—</td>
<td>—</td>
<td>1.00</td>
<td>-.56***</td>
<td>-.31***</td>
<td>-.17</td>
<td>.09</td>
<td>-.34***</td>
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<tr>
<td>6. Academic self-efficacy</td>
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<td>-.09</td>
<td>-.18*</td>
<td>-.33***</td>
<td>1.00</td>
<td>.37***</td>
<td>.12</td>
<td>-.20**</td>
<td>.62***</td>
</tr>
<tr>
<td>7. Mastery goals</td>
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<td>.24**</td>
<td>.25**</td>
<td>-.32***</td>
<td>-.42**</td>
<td>.45**</td>
<td>1.00</td>
<td>.43***</td>
<td>.13</td>
<td>.24***</td>
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<tr>
<td>8. Performance-approach goals</td>
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<td>.60***</td>
<td>.50***</td>
<td>.06</td>
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<td>1.00</td>
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<td>10. Academic achievement</td>
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<td>.11</td>
<td>-.01</td>
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<td>-.28**</td>
<td>-.53**</td>
<td>-.31***</td>
<td>.21**</td>
<td>-.08</td>
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</tr>
</tbody>
</table>

*Note.* \( N = 304 \). Coefficients from the math model are presented above the diagonal; those from the English model below the diagonal. Dashes indicate that coefficients are presented in the upper diagonal.

\( p < .05 \)  \( ** p < .01 \)  \( *** p < .001 \)
self-efficacy in both domains (rs = .38 in math and .35 in English), while socially prescribed perfectionism did not. Both perfectionism variables demonstrated positive correlations with all three achievement goals. Nonetheless, a mastery goal correlated more strongly with self-oriented than socially prescribed perfectionism (rs = .44 vs .22 in math and .48 vs .24 in English) and a performance-avoidance goal correlated more strongly with socially prescribed than self-oriented perfectionism (rs = .39 vs .24 in math and .49 vs .29 in English). A performance-approach goal exhibited positive correlations with both self-oriented (rs = .50 in both math and English) and socially prescribed (rs = .52 in math and .60 in English) perfectionism. With few exceptions, the overall pattern was highly similar across math and English.

Path Model With Perfectionism and Outcomes Only

We performed path analysis with the same set of reliability-driven composite scores. Before testing the full path model with subject-specific academic self-efficacy and achievement goals as mediators, we examined only the direct paths from perfectionism to outcome variables. This model fit the data well, \( \chi^2(10, N = 304) = 28.376, p < .01 \) (TLI = .908, CFI = .956, RMSEA = .078). Figure 2 presents statistically significant paths at \( p < .05 \) from this model.

When the two perfectionism variables entered the regression equation together, the contrasting characteristics between them became clearer. Self-oriented perfectionism did not relate to test anxiety but related positively to academic achievement (\( \beta = .37 \)), supporting our hypothesis. Although not anticipated a priori, it also related negatively to acceptability of cheating (\( \beta = -.34 \)) and academic procrastination (\( \beta = -.66 \)). Socially prescribed perfectionism, in contrast, related positively to test anxiety (\( \beta = .45 \)), acceptability of cheating (\( \beta = .25 \)), and academic procrastination (\( \beta = .43 \)). Our hypothesis that socially prescribed perfectionism would be a positive predictor of maladaptive variables thus received support. Socially prescribed perfectionism did not relate significantly to achievement, however.

![Path model with direct paths from perfectionism to outcomes only](image)

**Figure 2.** Path model with direct paths from perfectionism to outcomes only. Only statistically significant paths at \( p < .05 \) are presented. Error terms are omitted for clarity. SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism; ANX = test anxiety; CHT = acceptability of cheating; PROC = academic procrastination; ACH = achievement scores.

Path Models With Academic Self-Efficacy and Achievement Goals as Mediators

Next, we tested full path models with subject-specific academic self-efficacy and achievement goals as mediators. The model displayed satisfactory fit to the data in both subject domains, \( \chi^2(7, N = 304) = 13.927, p > .05 \) (TLI = .931, CFI = .989, RMSEA = .057) in math, and \( \chi^2(7, N = 304) = 10.980, p > .05 \) (TLI = .959, CFI = .994, RMSEA = .043) in English. Figure 3 presents statistically significant paths at \( p < .05 \) from these models, with coefficients from the math model to the left of the slash and those from the English model to the right of the slash.

**Paths from perfectionism to motivation variables.** All of our hypotheses regarding the relationships of each perfectionism variable with academic self-efficacy and achievement goals received support. Specifically, self-oriented perfectionism related positively to academic self-efficacy (\( \beta_s = .46 \) in math and .41 in English), a mastery goal (\( \beta_s = .34 \) in math and .35 in English), and a performance-approach goal (\( \beta_s = .33 \) in math and .21 in English) in the respective subject. Socially prescribed perfectionism related positively to performance-approach (\( \beta_s = .34 \) in math and .47 in English) and performance-avoidance goals (\( \beta_s = .32 \) in math and .44 in English). The significant bivariate correlation between self-oriented perfectionism and a performance-avoidance goal and that between socially prescribed perfectionism and a mastery goal were no longer observed when only the unique variance in perfectionism was considered.

Two consistent mediation paths between self-oriented perfectionism and achievement goals by academic self-efficacy emerged. One involved a mastery goal (\( z = 2.87, p < .01 \) in math and \( z = 3.18, p < .01 \) in English) and the other a performance-avoidance goal (\( z = -3.36, p < .001 \) in math and \( z = -3.27, p < .01 \) in English). Self-oriented perfectionism related positively to academic self-efficacy in both subjects, while academic self-efficacy in turn related positively to a mastery goal (\( \beta_s = .24 \) in math and .32 in English) and negatively to a performance-avoidance goal in the domain (\( \beta_s = -.30 \) in math and -.32 in English). Table 3 presents estimates of indirect effects from the math model, and Table 4 presents those from the English model, along with results from the Sobel tests.

**Paths from self-oriented perfectionism to outcome variables.** Academic self-efficacy and a mastery goal mediated the significant negative path from self-oriented perfectionism to acceptability of cheating. Whereas pursuing a mastery goal alone sufficed as a mediator in this relationship, feeling self-efficacious did not. A sense of self-efficacy had to be coupled with a mastery goal in the subject domain, which then related negatively to acceptability of cheating (\( \beta_s = -.27 \) in math and -.32 in English). However, although the individual paths linking self-oriented perfectionism to self-efficacy, self-efficacy to a mastery goal, and a mastery goal to acceptability of cheating were all statistically significant in both subjects, the total indirect effects from self-oriented perfectionism to acceptability of cheating were not statistically significant, as determined by the bootstrapping method. Only the paths linking math self-efficacy to acceptability of cheating via a mastery goal in math proved significant (\( z = -2.17, p < .05 \)).

The direct negative path between self-oriented perfectionism and academic procrastination remained significant and negative even in the presence of intervening motivational variables. Still,
The coefficients were in substantially reduced magnitude ($\beta_s = -31$ in math and $-38$ in English) from the coefficient from the direct path model ($\beta = -66$), suggesting mediation effects. The path was partially mediated by academic self-efficacy in math ($z = -3.73$, $p < .001$) and by either a mastery goal alone ($z = -2.10$, $p < .05$) or by academic self-efficacy and a mastery goal together ($z = -2.06$, $p < .05$) in English. In math, self-oriented perfectionism related positively to academic self-efficacy, which related negatively to academic procrastination ($\beta = -44$). In English, self-oriented perfectionism related to a mastery goal either directly ($\beta = .35$) or via academic self-efficacy ($\beta = .32$). A mastery goal then related negatively to academic procrastination ($\beta = -.30$).

The significant positive path from self-oriented perfectionism to achievement previously observed in the direct path model was fully mediated by subject-specific academic self-efficacy in both math ($z = 4.74$, $p < .001$) and English ($z = 3.78$, $p < .001$). Self-oriented perfectionism related positively to academic self-efficacy in the subject, which positively predicted achievement in both math ($\beta = .62$) in English ($\beta = .47$).

**Paths from socially prescribed perfectionism to outcome variables.** Whereas the paths from self-oriented perfectionism to outcome variables were largely mediated by academic self-efficacy and the two approach-oriented achievement goals, those from socially prescribed perfectionism were not. Two of the three direct paths from socially prescribed perfectionism to outcome variables previously observed in the direct path model remained significant and in comparable magnitude in the mediation models. Specifically, socially prescribed perfectionism was a direct positive predictor of test anxiety ($\beta_s = .32$ in math and .21 in English) and academic procrastination ($\beta_s = .31$ in math and .36 in English) in both subject domains. The only significant partial mediation was between socially prescribed perfectionism and test anxiety in English ($z = 2.26$, $p < .05$). Socially prescribed perfectionism related positively to a performance-avoidance goal in English ($\beta = .44$), which related positively to test anxiety ($\beta = .28$).

**Discussion**

Students come into class armed with not only motivation and prior knowledge but also family background, developmental and socialization history, and personality characteristics. It is important to learn how these diverse factors all come into play in achievement settings, at least what the salient patterns are among major variables, to understand the “whole” student. It is for this reason that we were interested in the role of perfectionism in academic contexts in the first place. The present results once again demonstrated that the effects of stable personality dispositions, such as perfectionism on academic outcomes, although not trivial, do get mediated by students’ motivational beliefs in specific subject domains.

Our primary purpose in this research was twofold. First, we tried to ascertain the dimensional nature of perfectionism, so as to help future research with this personality trait with potential weighty consequences for students in achievement settings. Whereas researchers seldom question the maladaptive nature of socially prescribed perfectionism, they have not been able to reach a firm conclusion regarding the adaptive nature of self-oriented perfectionism (Stoeber et al., 2009). We reasoned that dimensionality of perfectionism would play out most vividly when assessed in reference to typical learning situations, due to the ongoing competition, imminent possibilities of failure, and ambiguous definitions of success inherent in them.

Second, we wanted to test once again the importance of academic motivation in assisting learners with adaptive as well as maladaptive dispositions to adjust and function better in specific achievement situations. Because personality traits predispose learners to certain motivational tendencies, academic motivation likely mediates the processes linking perfectionism to achievement-related outcomes (Mills & Blankstein, 2000). Further, because self-oriented and socially prescribed perfectionism differ with respect to who initiates and maintains control over goals and standards, learners high in each type of perfectionism inevitably generate different responses toward identical challenges and setbacks and are expected to conclude the same achievement episodes differently by following disparate motivational paths.

The results were largely consistent with our hypotheses. Self-oriented perfectionism related positively to academic achievement and negatively to acceptability of cheating and academic procrastination in achievement settings. It did not link significantly to test anxiety. Socially prescribed perfectionism, in contrast, related positively to test anxiety, acceptability of cheating, and academic procrastination but did not link significantly to academic achievement. Many of the significant paths from perfectionism to outcomes were mediated by domain-specific motivation. The paths from self-oriented perfectionism to outcomes were mediated by academic self-efficacy and a mastery goal in the domain, while those from socially prescribed perfectionism were mediated by a performance-avoidance goal. Nonetheless, the direct paths from the two perfectionism dimensions to academic procrastination and that from socially prescribed perfectionism to test anxiety re-
maintained significant, even in the presence of the intervening motivation variables.

**Self-Oriented as Adaptive Perfectionism and Socially Prescribed as Maladaptive Perfectionism**

Consistent with previous reports (Flett et al., 1994, 1995; Hewitt et al., 2002; Mills & Blankstein, 2000; Verner-Filion & Gaudreau, 2010), self-oriented perfectionism and socially prescribed perfectionism correlated with each other yet were clearly distinguishable dimensions for our Korean middle school participants. The correlation between the two perfectionism dimensions, however, was noticeably larger than what has been typically observed in the literature. The strong correlation between self-oriented and socially prescribed perfectionism seems to indicate that the Korean adolescents, with a strong desire to meet the extremely high standards that their teachers and parents set for them, also tended to set similarly high standards for themselves and strove to achieve those perfectionistic standards.

Interdependent self-construal could accentuate socially prescribed perfectionism as well as strengthen alliance between the two perfectionism dimensions. The desire to please significant others in the social network that one identifies with, is a strong source of motivation for individuals in collectivistic cultures with interdependent self-construal (Heine, 2001; Markus & Kitayama, 1991; Oishi & Diener, 2001). Because conformity is a virtue (Markus & Kitayama, 1994), they would ascribe high value to what their in-group members consider important. Korean students, presumably with stronger interdependent self-construal compared to students in Western cultures, could more likely approve the goals and standards valued by parents and teachers and internalize them as their own. This conjecture should be formally tested in future research, however, as the mean score of socially prescribed perfectionism in this study was not particularly high.

In previous research, self-oriented perfectionism has frequently demonstrated both positive and negative characteristics, correlating positively with variables as varied as depression, test anxiety, self-efficacy, and intrinsic and extrinsic motivation (Hewitt et al., 2002; Mills & Blankstein, 2000; Stoeber et al., 2009). For the Korean adolescents participating in this study, in comparison, self-oriented perfectionism consistently emerged as a positive predictor of adaptive variables, including academic self-efficacy and achievement, and a negative predictor of maladaptive variables, including acceptability of cheating and academic procrastination. Socially prescribed perfectionism primarily functioned as a positive predictor of maladaptive variables. As we conjectured and consistent with Mills and Blankstein (2000), self-oriented perfectionism correlated positively with test anxiety, but when the covariance with socially prescribed perfectionism was controlled for, the relationship was no longer significant. Self-oriented perfectionism thus appears to be an adaptive characteristic, while socially

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**Table 3**

*Standardized Total, Direct, and Indirect Effects in the Math Model*

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator variable</th>
<th>Dependent variable</th>
<th>Standardized estimate of indirect effects</th>
<th>Sobel test</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP</td>
<td>→ SE</td>
<td>→ MAP</td>
<td>.45**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOP</td>
<td>→ SE</td>
<td>→ MAP</td>
<td>.34**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOP</td>
<td>→ SE</td>
<td>→ PAP</td>
<td>.31**</td>
<td>.11**</td>
<td>2.87**</td>
</tr>
<tr>
<td>SOP</td>
<td>→ SE</td>
<td>→ PAV</td>
<td>.04</td>
<td>.18†</td>
<td>−.14**</td>
</tr>
<tr>
<td>SPP</td>
<td>→ SE</td>
<td>→ PAV</td>
<td>.01</td>
<td>−.04</td>
<td>.05</td>
</tr>
<tr>
<td>SPP</td>
<td>→ SE</td>
<td>→ ANX</td>
<td>−.26†</td>
<td>−.16</td>
<td>−.10</td>
</tr>
<tr>
<td>SPP</td>
<td>→ SE</td>
<td>→ CHT</td>
<td>.57†</td>
<td>−.31†</td>
<td>−.26**</td>
</tr>
<tr>
<td>SPP</td>
<td>→ SE</td>
<td>→ PROC</td>
<td>.23†</td>
<td>−.06</td>
<td>.29**</td>
</tr>
<tr>
<td>SPP</td>
<td>→ SE</td>
<td>→ ACH</td>
<td>.23†</td>
<td>−.06</td>
<td>.29**</td>
</tr>
</tbody>
</table>

*Note.* SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism; SE = academic self-efficacy; MAP = mastery goal; PAV = performance-avoidance goal; ANX = test anxiety; CHT = acceptability of cheating; PROC = academic procrastination; ACH = achievement scores. Based on 1,000 bootstrap samples.

† p < .10.  †† p < .05.  ††† p < .01.  †††† p < .001.
prescribed perfectionism a maladaptive characteristic, to possess in the academic domain—at least for the current sample of Korean middle school students.

The nature of direct paths from either type of perfectionism to subject-specific motivation was consistent across math and English. Self-oriented perfectionism related positively to academic self-efficacy, a mastery goal, and a performance-approach goal, while socially prescribed perfectionism did not relate to academic self-efficacy and instead related positively to performance-approach and performance-avoidance goals. Consistent with our hypothesis, the relationships of perfectionism with outcome variables were mediated by academic self-efficacy and achievement goals in the subject domain. The pattern of mediation also generally stayed the same, regardless of whether motivation in math or that in English was examined. This is strong evidence that present findings are not confined to particular subject matter domains.

Even so, there was a difference in the extent to which motivation mediated the effects of perfectionism. All paths from self-oriented perfectionism to outcome variables were mediated, either fully or partially, by motivation variables. Those from socially prescribed perfectionism, in contrast, were not as effectively mediated by the same variables. Two of the three direct paths to outcome variables remained significant and strong, even after the subject-specific motivation variables entered the equation. The present results thus suggest that self-oriented perfectionism works largely through motivation of learners in specific achievement contexts, whereas socially prescribed perfectionism works more directly on achievement-related outcomes.

It is worth noting that the four variables to which socially prescribed perfectionism linked directly and consistently across the two subject domains—test anxiety, academic procrastination, a performance-approach goal, and a performance-avoidance goal—as well as the socially prescribed perfectionism itself, are correlates of fear of failure (Elliott & Church, 1997; Speirs Neumeister, 2004; Steel, 2007). This finding implies that fear of failure may be particularly resistant to contextual influences. Bong (2001) offered a similar conjecture when performance-approach and performance-avoidance goals of Korean middle and high school students displayed noticeably stronger correlations across multiple subject matter domains than did other motivation constructs. Compared to non-Asian students, Asian students also report stronger fear of failure, which explains their motivation in a specific achievement context better than do other constructs such as self-efficacy or effort attribution (Eaton & Dembo, 1997).

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator variable</th>
<th>Dependent variable</th>
<th>Standardized estimate of indirect effects</th>
<th>Sobel test z</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP</td>
<td>SE</td>
<td>MAP</td>
<td>.49**</td>
<td>3.18**</td>
</tr>
<tr>
<td>SOP</td>
<td>SE</td>
<td>PAP</td>
<td>.24*</td>
<td>-3.27**</td>
</tr>
<tr>
<td>SOP</td>
<td>SE</td>
<td>PAV</td>
<td>.03</td>
<td>-1.14</td>
</tr>
<tr>
<td>SPP</td>
<td>SE</td>
<td>MAP</td>
<td>-0.02</td>
<td>-2.10*</td>
</tr>
<tr>
<td>SPP</td>
<td>SE</td>
<td>PAP</td>
<td>.46**</td>
<td>3.78***</td>
</tr>
<tr>
<td>SPP</td>
<td>SE</td>
<td>PAV</td>
<td>.48**</td>
<td>.02</td>
</tr>
<tr>
<td>SE</td>
<td>PAV</td>
<td>ANX</td>
<td>-.21</td>
<td>-.14</td>
</tr>
<tr>
<td>SE</td>
<td>PAV</td>
<td>CHT</td>
<td>-.17</td>
<td>-.04</td>
</tr>
<tr>
<td>SE</td>
<td>PAV</td>
<td>PROC</td>
<td>-.13</td>
<td>-.02</td>
</tr>
<tr>
<td>SE</td>
<td>PAV</td>
<td>ACH</td>
<td>.25**</td>
<td>.25**</td>
</tr>
</tbody>
</table>

Note. SOP = self-oriented perfectionism; SPP = socially prescribed perfectionism; SE = academic self-efficacy; MAP = mastery goal; PAV = performance-avoidance goal; ANX = test anxiety; CHT = acceptability of cheating; PROC = academic procrastination; ACH = achievement scores. Based on 1,000 bootstrap samples.

\( p < .10 \quad ^* p < .05 \quad ^{**} p < .01 \quad ^{***} p < .001 \)
procrastination. As they expressed stronger socially prescribed perfectionism, on the contrary, they more frequently engaged in procrastinating behaviors. Socially prescribed perfectionism consistently demonstrates a strong positive correlation with fear of negative evaluation (Flett, Hewitt, & De Rosa, 1996; Hewitt & Flett, 1991). Also, compared to self-oriented perfectionism, which correlates positively with commitment to perfect “performance” at school, socially prescribed perfectionism correlates positively with commitment to perfect “relationships” with significant others (Flett et al., 1995). Students with socially prescribed perfectionism, finding it difficult to satisfy the perfectionistic standards of others, could resort to academic procrastination as a desperate means to delay unfavorable judgments by, and damaged relationships with, parents and teachers.

Milgram, Sroloff, and Rosenbaum (1988) provided yet another interesting account of the strong phenomenon—procrastination link. They argued that when students feel that parents, teachers, and other powerful adult figures impose certain tasks on them, they may show greater procrastination as an expression of covert negativity. Covert negativity is a type of motivation that represents an indirect display of hostility and passive retaliation toward others, could resort to academic procrastination as a desperate means to delay unfavorable judgments by, and damaged relationships with, parents and teachers.

Academic Self-Efficacy as a Positive Amplifier of Self-Oriented Perfectionism

We examined the role of perfectionism in concert with academic self-efficacy and achievement goals, arguably the two most prominent constructs in contemporary academic motivation research. Students’ self-efficacy beliefs, or subjective convictions to perform successfully in the given subject domain (Bandura, 1997; Schunk, 1991), were particularly effective in augmenting the adaptive aspects of self-oriented perfectionism. The positive direct path from self-oriented perfectionism to academic achievement and the negative direct paths to acceptability of cheating and academic procrastination were all significantly mediated by academic self-efficacy in the domain.

More specifically, self-oriented perfectionism related to stronger academic self-efficacy in the subject domain, whether it was math or English. Stronger academic self-efficacy, in turn, related to a stronger mastery goal and a weaker performance-avoidance goal in the subject areas. It also related to less academic procrastination and acceptability of cheating among students, directly or indirectly through a stronger mastery goal. Most of all, academic self-efficacy was the strongest positive predictor of achievement in both math and English, a finding that is now clearly established in the academic motivation literature (Bong & Skaalvik, 2003; Multon et al., 1991; Pajares, 1996; Schunk, 1991; Zimmerman, 2000).

Whereas academic self-efficacy as a mediator reinforced the adaptive functions of self-oriented perfectionism, it did not intervene between socially prescribed perfectionism with other variables. Korean middle school students expressed stronger convictions for successfully performing in the given subject domains as they expressed a stronger desire to achieve highly difficult goals but only when those goals were set by themselves. The desire to satisfy difficult goals set forth by others—socially prescribed perfectionism—did not demonstrate a systematic relationship with academic self-efficacy. The goals and standards set by self-oriented perfectionists, though they may be excessively demanding, thus appear to instill a sense of agency and perceived control in the individuals, which results in stronger convictions in their own capabilities for successfully attaining desired outcomes in the given domains.

Latham and Locke (1991) wrote, “Given sufficient ability, goal theory predicts a drop at high goal difficulty levels . . . if there is a large decrease in goal commitment” (p. 215). As discussed above, socially prescribed perfectionism correlated not with commitment to perfect performance at school but with commitment to perfect relationships with significant others (Flett et al., 1995). This suggests that socially prescribed perfectionists lack commitment to the goals of achieving the perfectionistic performance imposed on them. This lack of goal commitment would disrupt the relationships between socially prescribed perfectionism, self-efficacy, and performance. Whereas socially prescribed perfectionism does not appear to have direct implications for self-efficacy of students in the academic domain, it does appear to orient students toward particular types of achievement goals, which we discuss next.

Types of Perfectionism as Antecedents of Achievement Goals

As hypothesized, self-oriented perfectionism linked positively to a mastery goal and a performance-approach goal. Socially prescribed perfectionism linked positively to a performance-approach goal and a performance-avoidance goal. The same pattern emerged in both math and English. A commonality between self-oriented perfectionism and the two approach-oriented achievement goals is having an achievement motive as an antecedent. Self-oriented perfectionism and a mastery goal also prompt standards-based, as opposed to comparison-based, competence evaluation. Socially prescribed perfectionism and the two performance-oriented goals have fear of failure as a common correlate. Competence appraisals in socially prescribed perfectionism are carried out against standards imposed by others, while those in performance goals are executed against criteria determined by others’ performance (Elliot & Church, 1997; Elliot & McGregor, 2001; Speirs Neumeister, 2004; Van Yperen, 2006). It is hence not surprising that self-oriented perfectionists readily adopt a mastery goal, while socially prescribed perfectionists readily adopt performance goals in achievement situations.

For socially prescribed perfectionists, “others” are more than simply a source of comparison standards. Fear of unfavorable evaluation from others is a well-established correlate of socially prescribed perfectionism (Flett et al., 1996; Hewitt & Flett, 1991). In achievement situations, such fear could translate into concerns about proving competence to and concealing incompetence from
others. In this study, we assessed achievement goals with the items used in a study by Elliot and McGregor (2001). The performance-approach goal items focused exclusively on normative competence without any reference to concerns for ability validation, while the performance-avoidance goal items retained components of ability validation (e.g., “My fear of performing poorly in this class is often what motivates me”). Socially prescribed perfectionism still correlated strongly with both performance goals in both math and English. Had we used a different set of performance goal items that combines the normative competence and ability validation components (e.g., PALS; Midgley et al., 2000), even stronger relationships could have emerged between socially prescribed perfectionism and the two performance goals.

A recent debate in achievement goal research entails whether the concern for demonstrating and validating ability in front of others should be viewed as a legitimate and indispensible constituent of performance goals (Elliot & Murayama, 2008; Grant & Dweck, 2003). The present results do not speak directly to this question. Nevertheless, it deserves to note that students’ desire to appear perfectly competent by satisfying the standards imposed on them by others significantly and consistently related to both performance-approach and performance-avoidance goals across two specific subject matter domains in this study. Further, the paths from socially prescribed perfectionism to performance-approach goals ($\beta = .33$ and .21) were comparable in strengths with those to performance-avoidance goals ($\beta = .34$ and .47).

If socially prescribed perfectionism is maladaptive, these results suggest that not only a performance-avoidance goal but also a performance-approach goal share its maladaptive characteristics. The positive correlations of performance-approach goals with performance-avoidance goals ($r_s = .63$ and .59) and test anxiety in this study ($r_s = .50$ and .42) support this conjecture. In fact, the potentially detrimental nature of a performance-approach goal, amidst its positive associations with performance indexes, has been repeatedly observed in previous studies with younger learners. Korean elementary and middle school students, for example, do not distinguish between performance-approach and performance-avoidance goals (Bong, Woo, & Shin, 2013) and, even when they do, their performance-approach goals correlate significantly with test anxiety (Bong, 2009) and predict help-seeking avoidance (Bong, 2008). Continued research on the makeup and function of the performance goal, therefore, seems warranted.

Limitations

Several limitations of the present investigation should be noted. First, we assumed certain causal predominance among the variables included in our model according to theory and previous research. However, we measured the variables concurrently, except for the achievement scores that were collected after the surveys. A more accurate test of the mediating processes requires that presumed antecedents and consequents be assessed with a sufficient temporal interval.

Second, while we assessed motivation and achievement variables in reference to specific subject matter areas, outcome variables such as test anxiety, acceptability of cheating, and academic procrastination were assessed in reference to general learning situations. Because one of our primary interests was direct relationships between the two perfectionism dimensions and key outcome variables, and because a difference in assessment specificity between constructs could hamper proper examination of their associations (Pajares & Miller, 1995), we decided to assess the outcome variables at a level most similar to that of perfectionism. Evidence that anxiety (Green, Martin, & Marsh, 2007), cheating (Burton, 1963), and procrastination (Milgram, Mey-Tal, & Levinson, 1998) display strong cross-situational consistency aided our decision (but see Goetz, Frenzel, Pekrun, & Hall, 2006). Nevertheless, assessing all variables in the context of specific subject domains could disclose an interesting idiosyncrasy associated with subject matter learning, which we might have overlooked in this investigation.

Third, we used the Multidimensional Perfectionism Scale (MPS) by Hewitt and Flett (1991). This scale is by far the most frequently used one in the literature, and it has also been successfully translated and validated for Korean students in previous research (Seo & Symn, 2006). However, had we used a newer version specifically developed for the younger population, the Child-Adolescent Perfectionism Scale (CAPS; Flett, Hewitt, Boucher, Davidson, & Munro, 1997), the results could have been more accurate.

Fourth, the acceptability of cheating and academic procrastination scales demonstrated internal consistency estimates that were less than satisfactory. We were not too seriously concerned about the low reliability of these scales because (a) the acceptability of cheating scale had been associated with similar estimates of internal consistency in previous studies (Andersen et al., 1991; Murdock et al., 2004), (b) we only used reliable portions of the variance in the analysis, and (c) the relationships of the variables assessed with these scales with other variables were consistent with theory and previous findings. Nonetheless, the low reliability of these scales could have compromised integrity of the present findings to a certain degree.

Contributions and Future Directions

Although perfectionism is a personality trait with strong motivational implications (Hewitt & Flett, 1991), only a limited number of studies to date have directly investigated how perfectionism relates to motivation and achievement in the academic domain (see Fletcher & Speirs Neumeister, 2012). Further, a majority of these studies stop at reporting correlations between perfectionism and other variables, without probing the potentially intricate mediation or moderation in their associations (Verner-Filion & Gaudreau, 2010). The present research fills this gap in the literature and documents relevance of multidimensional perfectionism for adolescents in achievement settings. Korean adolescents as young as middle school students differentiated self-oriented and socially prescribed dimensions of perfectionism. They also manifested a distinct pattern of motivation and achievement-related behavior, depending on the particular type of perfectionism they possessed. When distinguished from socially prescribed perfectionism, self-oriented perfectionism was more facilitative than disruptive for motivation and learning processes. The current investigation contributes to the literature by supporting the dimensional analysis of perfectionism and adding to the growing body of literature that suggests the relatively adaptive nature of self-oriented perfectionism (Stoeber et al., 2009).
More important, this study has demonstrated that motivation in specific academic contexts mediates the paths linking stable personality dispositions such as perfectionism to concrete affective, behavioral, and performance outcomes in the academic domain. In previous research on the role of perfectionism in students’ academic functioning, investigators have typically examined the direct associations between perfectionism and outcomes without considering the intervening motivational processes (Bieling et al., 2003). When motivation variables were included, they were often assessed as motivation for school learning in general, and not as domain-specific motivational beliefs (Stoeber & Rambow, 2007; Verner-Filion & Gauvreau, 2010). However, such direct-path-only or general models would be an oversimplification of the complex interrelations among perfectionism, motivation, and outcomes. We tried to delineate part of this complexity by assessing some of the representative motivational constructs in reference to specific subject domains. By doing so, we were able to demonstrate that the manner with which each perfectionism dimension links to various outcomes depends, to a considerable degree, on students’ self-efficacy beliefs and achievement goals in particular subject matter areas. We believe this is an important finding because, even if we cannot easily change the perfectionism in students, we can still improve the quality of the learning process they engage in by altering their domain-specific motivational beliefs.

Can we say, based on the present findings, that self-oriented perfectionism is truly an adaptive personality trait for students’ academic functioning? The answer to this question depends on several conditions. Most of all, although self-oriented perfectionism played a positive role in this study, it is important to remember that it is not a pure form of achievement motivation that mutually excludes fear of failure or fear of negative evaluation from others (Flett et al., 1996; Frost et al., 1990; Hewitt & Flett, 1991; Speirs Neumeister, 2004). On the one hand, it represents the relentless propensity to demand a lot from oneself by setting high goals, which typically promotes intrinsic motivation, self-efficacy, effort, and persistence for attaining those goals. Under normal achievement situations where perceived stress or evaluative threat is not extreme, self-oriented perfectionism will activate approach-oriented motivation. On the other hand, it could turn maladaptive and function more similarly to socially prescribed perfectionism under extremely stressful situations.

When Hewitt et al. (2002) divided children into three groups by levels of achievement stress, for example, it was only the children with high and average levels of achievement or social stress for whom stronger self-oriented perfectionism resulted in greater depression and anxiety. For those children with low levels of achievement or social stress, self-oriented perfectionism did not show a significant relationship with any of these variables. The relationships of socially prescribed perfectionism with maladjustment symptoms did not depend on levels of stress. When individuals are under high stress, perceive strong evaluative threat, or need to perform high-stakes tasks that are of great importance, self-oriented perfectionism correlates with negative affect, depression, and anxiety (Frost & Marten, 1990; Hewitt, Mittelstaedt, & Wollert, 1989; Stoeber & Rambow, 2007), just like socially prescribed perfectionism does. We thus suggest that researchers and practitioners exercise due caution when interpreting findings related to multidimensional perfectionism, taking into account the known individual and situational moderators of perfectionism.

Finally, we suggest that socialization history and resultant dispositional characteristics may present another common ground on which different dimensions of perfectionism could link to specific motivational beliefs such as academic self-efficacy and achievement goals. Elliot and McGregor (2001) reported that person-focused negative feedback and conditional approval of mothers were antecedents of a performance-avoidance goal. Mothers’ conditional approval was an antecedent of a performance-approach goal as well. Hollender (1965) described a similar socialization mechanism spawning perfectionism by stating, “Perfectionism most commonly develops in an insecure child who needs approval, acceptance and affection from parents who are difficult to please” (p. 103). Speirs Neumeister and Finch (2006) demonstrated that insecure attachment to parents was indeed an antecedent of both perfectionism dimensions, while others showed that socially prescribed perfectionism usually demonstrates considerably stronger correlations with parent-related variables such as parental expectations and parental criticism (Flett et al., 1995). Future research should explore the causal chain among socialization history, motive dispositions, and perfectionism of the children and their motivation in school.

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ment levels. Journal of Educational Psychology, 97, 656–672. doi:10.1037/0022-0663.97.4.656


