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MOTIVATION AND SOCIAL PROCESSES

Do Students Distinguish Between Different Types of Performance Goals?

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The authors tested whether multiple components of a performance goal were differentiated by a group of Korean middle school students ($N = 239$). Confirmatory factor analyses showed that the normative and outcome components as well as the approach and avoidance components correlated too highly to be considered independent. A 2-factor model with a mastery goal and a performance goal most parsimoniously illustrated students’ achievement goal responses. In structural equation modeling, these 2 achievement goals functioned as conduits between perceived learning contexts and preference for course difficulty. Mastery goals were predicted positively by perceptions of school mastery goal structures and negatively by perceived importance of ability for academic success. Performance goals were positively predicted by perceptions of both school mastery and school performance goal structures with the latter demonstrating substantially stronger predictive power. Mastery goals in turn positively predicted preference for challenging courses, whereas performance goals positively predicted preference for easy courses.

Keywords achievement goal dichotomy, classroom goal structure, goal theory, learning environments, structural equation modeling

ACHIEVEMENT GOALS REFER TO the underlying purposes or reasons behind achievement-related behavior in specific settings (Ames, 1992; Dweck & Leggett, 1988; Midgley, Kaplan, & Middleton, 2001). Achievement goals are thought to explain why individuals are motivated. Different achievement goals create a different framework and meaning system for processing competence-relevant information. These goals lead individuals to interpret and respond to potential as well actual successes and failures differently (Elliott & Dweck, 1988). Numerous studies on the achievement goal construct have been published during the past few decades, quickly

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making it one of the most popular topics in contemporary motivation research (Pintrich, 2003). This feat owes to the achievement goals’ predictive utility for individuals’ choice, affect, and behavior in various learning and performance situations.

Perhaps because of the attention given to this construct, researchers have been struggling to reach complete agreement on the exact definition, number, and nature of achievement goals. In particular, possible functions and classifications of performance goals into different types have been arguably the most contentious subject in the research with achievement goals (e.g., see Grant & Dweck, 2003; Kaplan & Middleton, 2002). We aimed to examine some of the issues related to the performance goal in this study.

Dichotomous Classification of Achievement Goals

Earlier conceptualizations of achievement goals espoused a dichotomous view such that one of two conflicting goals was hypothesized to be dominant for each individual in any given situation. Individuals with learning (Dweck, 1986), task-involvement (Nicholls, 1984), or mastery goals (Ames, 1992) believe ability is malleable and are concerned mainly with developing their competence by mastering novel tasks and acquiring new skills. They are not afraid of investing effort in fear of making mistakes because errors and mistakes constitute an integral part of new learning. A mastery goal is an approach form of achievement motivation and has been associated with a variety of adaptive achievement processes and outcomes such as challenge-seeking, persistence in the face of failures and obstacles, and enjoyment of tasks at hand (Ames & Archer, 1988; Dweck & Legget, 1988).

The other achievement goal in this earlier dichotomy was called performance (Ames, 1992; Dweck, 1986) or ego-involvement goals (Nicholls, 1984). Individuals with performance goals seek to have their competence validated by demonstrating their excellence to others. They believe ability is more or less fixed and errors and mistakes are evidence of low ability. Individuals with performance goals thus tend to choose easy tasks where success is guaranteed. They may volunteer for an extremely difficult task at times when a mere attempt at such a task implies superior ability and failure does not necessarily signify low ability. A performance goal is particularly debilitating for individuals with low perceived competence because it interferes with their coping after failure and promotes a helpless pattern of responses (Elliott & Dweck, 1988). For these reasons, it was viewed to represent a maladaptive motivational orientation.

Trichotomous and $2 \times 2$ Classification of Achievement Goals

The achievement goal dichotomy soon gave way to the achievement goal trichotomy, primarily due to the incoherent results associated with a performance goal. Whereas a performance goal had often been linked to challenge-avoidance and decreased persistence, consistent with the original theorizing (Dweck & Legget, 1988; Elliott & Dweck, 1988), it had also demonstrated null or positive relations with self-efficacy, cognitive engagement, and achievement scores (e.g., Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Meece, Blumenfeld, & Hoyle, 1988; Wolters, Yu, & Pintrich, 1996). Elliott and colleagues (Elliott & Church, 1997; Elliott & Harackiewicz, 1996) reasoned that this confusion was due to abandonment of the approach-avoidance distinction and hence proposed that the dichotomous achievement goal framework should be expanded to incorporate this valence dimension.
In the trichotomous achievement goal framework (Elliot, 1999; Elliot & Church, 1997; Elliot & Harackiewicz, 1996), the approach-avoidance distinction is presumed to be a more powerful discriminator of motivation than the mastery-performance distinction. An approach or avoidance motive guides individuals to adopt certain achievement goals. These achievement goals, or cognitive-dynamic representations of competence-based possibilities, then directly regulate achievement-related processes and outcomes. In this framework, achievement goals are viewed as aims or desired end states rather than reasons for behavior. Either a mastery goal or a performance-approach goal could result from an approach motive because both achievement goals focus on competence-related possibilities that are positive such as self-improvement and task mastery (i.e., a mastery goal) or normative superiority (i.e., performance-approach goal). In contrast, an avoidance motive yields a performance-avoidance goal because the focus is now on avoiding negative possibilities of being less competent than others.

The achievement goal trichotomy has since evolved into the $2 \times 2$ framework (Elliot & McGregor, 2001). In it, achievement goals are distinguished along the dimensions of both goal definition (i.e., mastery vs. performance) and goal valence (i.e., approach vs. avoidance). In addition to distinguishing a performance goal into performance-approach and performance-avoidance goals, a mastery goal is also bifurcated into mastery-approach and mastery-avoidance goals. Similar to a mastery-approach goal, a mastery-avoidance goal defines competence in an absolute (as opposed to normative) sense. However, the focus is on the negative possibilities of skill deterioration or incomplete mastery of tasks (Elliot, 2005).

Performance Goal Debate Continues

Incorporating the motive distinction into the achievement goal framework has made significant advances in interpreting findings that used to be inexplicable by the dichotomous view. Acknowledging two types of performance goals with opposite underlying motives, in particular, helped streamline predictions regarding the antecedents and consequents of each achievement goal. It is unfortunate that several uneasy findings have nonetheless emerged.

Whereas a performance-avoidance goal consistently predicts maladaptive outcomes such as low achievement, help-seeking avoidance, and self-handicapping (e.g., Midgley & Urdan, 2001), a performance-approach goal still shows varying effects. It positively predicted not only test scores and grades (e.g., Wolters, 2004) but also help-seeking avoidance (e.g., Karabenick, 2003, 2004). Such mixed results associated with a performance-approach goal have piqued interest of goal theorists regarding the true essence of this goal. Several researchers have noted that there exist slightly different theoretical and operational definitions of a performance-approach goal in the literature and these differences may be responsible for the mixed effects of a performance-approach goal (Cury, Da Fonseca, Rufo, & Sarrazin, 2002; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Urdan & Mestas, 2006).

Most pertinent to the present research is the idea proposed by Grant and Dweck (2003). They noted that performance goals could take at least three different forms, which include goals of validating one’s ability, goals of attaining normative excellence, and goals of obtaining positive outcomes without being concerned with normative comparison. Among these goals, the ability validation goals have been most clearly linked to impairment upon failure and challenge. The normative excellence goals and the nonnormative outcome goals have tended to link to positive outcomes. Grant and Dweck further noted that the distinction between the performance goals...
with normative criteria and those without such criteria had not been tested empirically but should because it might have important theoretical implications.

Present Study

We pursued three research objectives in this study. First, we empirically tested the distinction between normative excellence and nonnormative outcome components of performance goals. Second, we attempted an extension of Grant and Dweck’s (2003) proposal to the performance-avoidance goal by conceptualizing not only a performance-approach goal but also a performance-avoidance goal to be separable into normative excellence and nonnormative outcome components. Third, we tried to examine potential antecedents of different performance goals, or performance goal components, which might reside in the learning environment as well as individual students.

Normative Excellence Versus Nonnormative Outcome Goals

As Grant and Dweck (2003) and others (Hulleman et al., 2010) correctly observed, different researchers assign different weight to the normative component when defining a performance goal. This difference in conceptual definition leads to corresponding differences in the assessment scales. The performance-approach and performance-avoidance goal items on the Patterns of Adaptive Learning Scales (Midgley et al., 2000), for example, have both the ability validation (e.g., “One of my goals is to show others that I’m good at my class work;” “It’s important to me that I don’t look stupid in class”) and normative comparison components (e.g., “It is important to me that I look smart compared to others in my class,” “It’s important to me that my teacher doesn’t think that I know less than others in class”). In comparison, those on the Achievement Goal Questionnaire (Elliot & Murayama, 2008) strictly concern attaining normative superiority (e.g., “My goal is to perform better than the other students”) or avoiding normative inferiority (e.g., “My goal is to avoid performing poorly compared to others”), respectively.

As the salience of normative focus has been one of the prominent differences in the definitions of performance goals, we wanted to test empirically if performance goals with and without such a normative component indeed formed independent factors. When Grant and Dweck (2003) tested five conceptually different goal components in a sample of U.S. college students, four empirical factors emerged. The responses on the learning and challenge-mastery items loaded on a single factor, as did those on the normative ability and normative outcome items. Nonnormative ability and nonnormative outcome goals formed separate factors. Their final model thus consisted of learning (i.e., mastery), normative, nonnormative ability, and nonnormative outcome goals.

In the present research, we assessed two types of performance-approach goals, each of which specifically addressing either “normative excellence” or “nonnormative positive outcomes.” The performance-approach goal for normative excellence represented students’ desires to perform better than others and was conceptualized to be similar to Elliot and colleagues’ performance-approach goal (Elliot & McGregor, 2001). The performance-approach goal for nonnormative positive outcomes (Grant & Dweck, 2003) represented students’ desires to perform well and obtain good academic grades. We also developed parallel items for assessing performance-avoidance goals. The performance-avoidance goal with a normative focus was similar to the performance-avoidance goal of Elliot and colleagues (Elliot & McGregor, 2001). When students engaged in achievement-related behavior for the goal of not wanting to perform poorly compared
with others, they were presumed to pursue performance goals of avoiding normative inferiority. In comparison, when students simply wanted to avoid performing poorly or getting a bad grade without being concerned with their relative standing, they were presumed to have performance goals of avoiding nonnormative negative outcomes.

Grant and Dweck (2003) stated that their primary interest was with approach-oriented achievement goals and hence did not assess avoidance-oriented achievement goals. In the achievement goal literature, the strong normative focus has been added to the definition of a performance-avoidance goal relatively recently. Whereas the performance-approach goal items in the earlier version of the Achievement Goal Questionnaire (Elliot & McGregor, 2001) already contained a clear reference to normative excellence (e.g., “It is important for me to do better than other students”), the performance-avoidance goal items only concerned poor performance in a nonnormative sense (e.g., “My goal in this class is to avoid performing poorly”). It was only in the revised version of the Achievement Goal Questionnaire that performance-avoidance goal items also contained an explicit focus on normative competence (e.g., “My goal is to avoid performing poorly compared to others”)). Therefore, we deemed it necessary to examine the normative and nonnormative distinction with regard to both performance-approach and performance-avoidance goals.

Perceived Social-Psychological Contexts on Achievement Goals

Students tend to adopt achievement goals that are consistent in focus to the goals emphasized in their learning environment (Ames & Archer, 1988; Meece, Anderman, & Anderman, 2006). The characteristics of the learning environment and the messages that students subjectively perceive in it are stronger determinants of their motivation, affect, and behavior than the actual characteristics of the learning environment (Ames, 1992; Roeser & Eccles, 1998). Students’ perceptions of the learning environment not only predict their achievement goals but also affect processes and outcomes associated with their learning, directly as well as indirectly via their achievement goals (Roeser, Midgley, & Urdan, 1996). We thus included perceptions of goal structures in school as predictors of achievement goals.

Students’ perceptions of the mastery goal structures in their school, in the form of perceived emphases on task mastery and individual progress, predict students’ adoption of personal mastery goals. These perceptions also predict positive affect, greater effort and persistence, less help-seeking avoidance, and deeper cognitive engagement (Ames & Archer, 1988; Karabenick, 2004; Lau & Nie, 2008; Ryan, Gheen, & Midgley, 1998). On the basis of these findings, we hypothesized that perceptions of mastery goal structures in school would predict students’ personal mastery goals as well as performance-approach goals focusing on nonnormative positive outcomes. Perceptions of performance goal structures, in the form of perceived emphases on competition and relative ability, on the contrary, have been shown to escort students into adopting performance-approach and performance-avoidance goals. These perceptions predict detrimental motivational tendencies such as negative affect, cheating, greater use of self-handicapping strategies, and help-seeking avoidance (e.g., Ames & Archer, 1988; Anderman & Midgley, 2004; Lau & Nie, 2008; Ryan et al., 1998; Urdan, 2004). We thus hypothesized that perceptions of performance goal structures in school would predict students’ personal performance-approach goals with a normative focus as well normative and nonnormative performance-avoidance goals.
We also included perceived parental expectations as a potential predictor of students’ achievement goal adoption, given their importance in the motivation of adolescents (Ethington, 1991). Evidence suggests that, compared with teachers’ achievement goals, parents’ achievement goals may be stronger predictors of the personal achievement goals that adolescents adopt. In a study by Friedel, Cortina, Turner, and Midgley (2007) with 1,021 seventh-grade students in the United States, adolescents’ perceptions of their parents’ and teachers’ achievement goals made correlated yet independent contributions to their personal achievement goals. Both perceived mastery goals of parents and teachers predicted students’ personal mastery goals. However, teachers’ performance goals were not able to predict students’ personal performance-approach goals when entered together with parents’ achievement goals in the prediction equation. Perceived performance goals of parents, in contrast, positively predicted these students’ personal performance-approach goals. Performance-approach and performance-avoidance goals were not distinguished in this study.

Previous studies conducted with Korean adolescents have also consistently demonstrated the psychological salience of parent-related perceptions in their academic functioning (Bong, 2008; Bong & Kim, 2006). Because learning is viewed as an obligation and moral endeavor in the East Asian cultures of Confucian heritage (Wang & Pomerantz, 2009), Korean adolescents typically express a strong desire to not disappoint their parents and fulfill their parents’ expectations. It is unfortunate that these expectations are often construed as achievement pressure to perform well in school and to achieve better than other students, thus sending messages comparable in nature to those of parental performance goals to children. In fact, Bong and Kim (2006) found that perceived parental expectations were a positive predictor of both performance-approach and performance-avoidance goals of Korean high school students. When Bong (2008) tried to untangle the multifaceted nature of the parent–child relationships among a different group of Korean adolescents, perceived parental support again emerged as a positive predictor of both performance-approach and performance-avoidance goals of these students. These results make sense because, when adolescents feel achievement pressure from their parents, they will strive to have their competence validated by demonstrating normative excellence, achieving good academic outcomes, and avoiding poor performance.

Accordingly, we expected perceived parental expectations to function similarly to parental performance goals as one of the important contextual antecedents affecting students’ achievement goal adoption. We hypothesized that perceived parental expectations would link to students’ performance-approach goals focusing on normative excellence as well as those focusing on nonnormative positive outcomes. On the basis of previous findings with Korean adolescents (Bong, 2008; Bong & Kim, 2006), we further hypothesized that perceived parental expectations would predict both types of performance-avoidance goals as well.

Perceived Importance of Ability on Achievement Goals

Implicit theories of intelligence were another variable we included in this research as an antecedent of achievement goals. It refers to individuals’ beliefs about malleability of intelligence (Dweck, 1999). An entity theory represents the belief that each individual has certain amount of intelligence and there is nothing much one can do to change it. An incremental theory embodies an opposite belief that intelligence is not fixed and one can improve it substantially by learning new things. Entity theorists tend to adopt performance goals and avoid challenging tasks in which success is not guaranteed. In contrast, incremental theorists are more likely to pursue mastery goals and
willingly choose difficult tasks in the hopes of increasing ability by mastering new things (Dweck & Leggett, 1988; Elliott & Dweck, 1988; Stipek & Gralinski, 1996). Later research demonstrated that the entity theory correlates positively with not only performance-approach goals but also performance-avoidance goals (Chen & Pajares, 2010; Vandewalle, 1997).

We assessed subjective beliefs in the importance of ability for academic success in the present research, which we developed as a proxy for an entity theory of intelligence tailored specifically to suit academic learning contexts. It represented one’s belief that innate ability is required for academic success and trying hard does not help much if ability is not present. Theoretically, it is possible that students maintain a dual belief system such that they believe in the fixed nature of ability (i.e., entity theory of intelligence), yet do not believe ability is important for achieving academic success. We believed this possibility was not strong, however, given Dweck and her colleagues’ repeated findings that simply believing in the fixed nature of ability was enough to debilitate children’s subsequent cognitive functioning and these entity theorists were quick to blame their ability for their failures (e.g., Hong, Chiu, Dweck, Lin, & Wan, 1999).

Whereas perceived goal structures in school and parental expectations were presumed antecedents arising from sources outside individuals, beliefs in the importance of ability were thought to represent an antecedent based on more or less stable individual characteristics. We reasoned, on the one hand, if students believe ability is a key element in academic success and also believe they have what it takes to attain this positive outcome, they would be more likely to pursue performance-approach goals. On the other hand, if students believe that ability is critical yet doubt they possess the necessary ability, they would be more inclined to adopt performance-avoidance goals.

We further reasoned that students who believe in the indispensable nature of ability for academic success would more strongly pursue performance goals with a normative focus than they would nonnormative ones. When children believe intelligence is fixed and not easily changeable, they dismiss the role of effort and become preoccupied with validating their intelligence as well as not invalidating it (Dweck, 1999; Dweck & Sorich, 1999). Entity theorists are also more attuned to normative information when appraising their own ability and motivation, compared with incremental theorists who treat temporal information as more diagnostic of their ability (Butler, 2000). Therefore, students with strong beliefs in the importance of ability for academic success were expected to engage in achievement-related strivings for the purpose of performing better or of not performing worse than others, rather than for the purpose of simply attaining decent outcomes.

We hypothesized that belief in the importance of ability for academic success would show a negative relation with a mastery goal due to their antithetical nature, in addition to the negative relation between an entity theory of intelligence and a mastery goal reported in the literature (Bråten & Stømsø, 2004; Chen & Pajares, 2010; Vandewalle, 1997).

**METHOD**

**Participants and Procedures**

A group of 239 eighth-grade students attending a public middle school in a city near Seoul, Korea, participated in this research. Ages of the participants were estimated to range from
13 years 4 months to 14 years 4 months at the time of the survey, according to the official school enrollment age in Korea. In general, Korean public middle schools are not selective as students typically enter a school among several nearby schools by the lottery system. However, the degree of selectivity differs considerably depending on the implementation of “the high school equalization policy.” Korea has started implementing this policy since 1974 for the purposes of (a) assuring equal opportunities to all students for entrance to select high schools, (b) reducing the extreme competition and psychological stress among young adolescents associated with high-stakes testing required for high school entrance, and (c) minimizing financial burden on individual families for the child’s private tutoring needs (Kang & Jeon, 2006; Kim, 2002). As of 2000, a little more than half (approximately 51%) of the academic-track high schools in Korea are located in school districts that enforce high school equalization, which includes most of the metropolitan cities (Kim, 2002). The participating middle school came from a district that did not implement the high school equalization policy. Schools located in such districts are known to be more competitive in culture because students have to take an examination toward the end of their senior year to enter the select high school of their choice.

Surveys were administered during regular classroom hours, several days before the end of the first semester. Students were assured of confidentiality of their responses. We excluded three students from the sample because insincere responses were strongly suspected. The final sample included 236 students (111 girls, 125 boys). Missing data per variable were less than 5.1% of the responses across all variables. These were replaced with mean scores so as to retain as many cases as possible for subsequent covariance modeling.

Measures

All surveys were administered in Korean. When the original items and scales were in English, we employed translation-back translation processes to ensure construct validity of the translated items and scales in Korean (Brislin, 1970). Specifically, the first author translated the mastery, performance-approach: normative, performance-approach: outcome items from Grant and Dweck (2003) and the perceptions of school goal structure items from Roeser and colleagues (1996) and the Patterns of Adaptive Learning Scales (Midgley et al., 2000) into Korean. These items were then independently back-translated into English by a bilingual graduate student who was not a member of the research team. Last, the back-translated items were compared with the original items for correspondence in meaning. There was no disconcerting discrepancy between any of the original and back-translated item pairs used in this study. The remaining items and scales were developed originally in Korean for the purpose of the present research and hence did not require translation. All items referred to school learning in general. A response scale ranged from 1 (not true at all) to 5 (very true) throughout the survey.

Achievement goals

We adapted the mastery (i.e., learning), normative, and nonnormative outcome goal items from the Patterns of Adaptive Learning Scales (Midgley et al., 2000) and Grant and Dweck (2003). Because Grant and Dweck’s items had only an approach focus, we developed corresponding normative ability and nonnormative outcome goal items with an avoidance focus. Therefore, we assessed the following five achievement goals: mastery (MAP), performance-approach: normative
(PAPNRM), performance-approach: nonnormative outcome (PAPOUT), performance-avoidance: normative (PAVNRM), and performance-avoidance: nonnormative outcome goals (PAVOUT). We tried to use identical stems and phrases to those of the published items as much as possible and changed only the portions necessary to represent the intended variation. We did so to minimize the possibility of obtaining differences due to extraneous factors such as differences in wording.

We did not assess the mastery-avoidance goal proposed by Elliot and McGregor (2001) in this research, as this relatively novel construct is not without conceptual ambiguity and requires further empirical testing (e.g., see Bong, 2009). The goal is also known to be more relevant to individuals who are elderly, have experienced their peak, or are concerned about deterioration of their existing skills (Elliot, 2005) rather than those who are still in the process of developing their competencies such as the middle school participants in this study. More important, we deemed this goal to be not of direct relevance to the present research because the primary focus of this study was on the performance goals.

There were three items each for assessing a particular achievement goal, starting with a mastery goal (e.g., “I study for the purpose of improving my competence,” \(\alpha = .69\)), a performance-approach goal: normative (e.g., “An important reason that I study is to perform better than other students,” \(\alpha = .83\)), a performance-approach goal: nonnormative outcome (e.g., “An important reason that I study is to get good grades,” \(\alpha = .70\)), a performance-avoidance goal: normative (e.g., “I study for the purpose of hiding that I do worse compared to others,” \(\alpha = .72\)), and a performance-avoidance goal: nonnormative outcome (e.g., “An important reason that I study is to avoid getting bad grades;” \(\alpha = .73\)).

**Perceived importance of ability for academic success**

We developed two items to measure students’ subjective perceptions regarding importance of ability for academic success: “You have to be smart to do well in school academically” and “ability is more important than effort to do well in school” \((\alpha = .53)\).

**Perceived parental expectations**

Three items tapped students’ perceptions of parental expectations (e.g., “My parents want me to do well academically in school”; \(\alpha = .82\)).

**Perceptions of school goal structures**

Students’ perceptions of the mastery and performance goal structures in their school were assessed with three items each. Items were adapted from Roeser and colleagues (1996) and the Patterns of Adaptive Learning Scales (Midgley et al., 2000). These items had been used successfully with different groups of Korean adolescents in previous research (Bong, 2005, 2008). A sample item for the perceptions of school mastery goal structure is, “In our school, trying hard is more important than getting good grades \((\alpha = .52)\)” A sample item for the perceptions of school performance goal structure is, “In our school, getting high scores on tests is more important than understanding the work \((\alpha = .71)\)”
Preference for course difficulty

We developed two items for assessing students’ preference for challenging courses (e.g., “I prefer classes that make me think really hard to those whose content could be easily memorized,” $\alpha = .60$) and three items for assessing students’ preference for easy courses (e.g., “I prefer classes that are boring but easy to those that are interesting but challenging,” $\alpha = .63$). This variable was included as a possible outcome of achievement goals to test their adaptive versus maladaptive nature.

RESULTS

Descriptive Statistics and Zero-Order Correlations

Students’ responses to the three-item achievement goal scales demonstrated acceptable levels of reliability with $\alpha$s $\geq .70$ (Streiner, 2003), except for the mastery goal scale with $\alpha = .69$. Several other scales were associated with less-than-satisfactory internal consistency indexes. The reliability coefficients for the perceived importance of ability for academic success and perceptions of school mastery goal structure scales were particularly low with $\alpha$s of .53 and .52, respectively. Most of the scales used in the present research had only two or three items and we suspect that the small number of items contributed to lowering the reliability coefficients. Because we used confirmatory factor analysis (CFA) and structural equation modeling as the two main analytic techniques in this study, both of which are known to correct for measurement error, we decided to retain these variables in the analysis. As will be shown later, results associated with these variables were highly consistent with previous research, supporting our decision.

Table 1 shows descriptive statistics and correlation coefficients among the observed variables. Perceived importance of ability for academic success ($M = 2.73$, $SD = 1.02$) demonstrated the lowest mean and the largest standard deviation scores among the variables. In contrast, perceived parental expectation was associated with the highest mean and the smallest standard deviation scores ($M = 4.01$, $SD = 0.78$). The Korean middle school participants thus found the importance of ability for academic success items the least agreeable and the parental expectation items the most agreeable. Strong positive correlations ($r$s = .61 to .79) among different types of performance goals are also noteworthy. Consistent with conceptual definitions, a mastery goal showed moderate positive correlations with both types of performance-approach goals, presumably due to sharing of the same valence ($r$s = .31 and .39). Performance-avoidance goals, regardless of a normative focus, did not correlate with a mastery goal ($r$s = .07 and .06, both $p$s $>.05$).

Confirmatory Factor Analyses

We first performed CFAs to examine the measurement properties of the hypothesized achievement goal factors, using AMOS 7 (Arbuckle, 2006). Before conducting CFAs, we checked whether the normality assumption was not violated in our data. There was no serious problem with regard to univariate normality of the variables. Values of skewness ranged between $-.74$ and $.21$ and those of kurtosis ranged between $-.50$ and $.41$. Although AMOS does not provide direct tests
TABLE 1  
Descriptive Statistics and Zero-Order Correlation Coefficients Among Observed Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
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<th>10</th>
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<tr>
<td>1. Importance of ability</td>
<td>2.73</td>
<td>1.02</td>
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<td>2. Perceived parental expectations</td>
<td>4.01</td>
<td>0.78</td>
<td>.20</td>
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<tr>
<td>3. Perceptions of school mastery goal structures</td>
<td>2.97</td>
<td>0.94</td>
<td>-.08</td>
<td>-.06</td>
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<tr>
<td>4. Perceptions of school performance goal structures</td>
<td>3.25</td>
<td>0.93</td>
<td>.34</td>
<td>.32</td>
<td>-.38</td>
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<td>5. Mastery goal</td>
<td>3.42</td>
<td>0.83</td>
<td>-.16</td>
<td>.03</td>
<td>.24</td>
<td>-.17</td>
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<td>6. Performance-approach goal: normative</td>
<td>3.13</td>
<td>0.96</td>
<td>.20</td>
<td>.18</td>
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<td>7. Performance-approach goal: nonnormative outcome</td>
<td>3.34</td>
<td>0.88</td>
<td>.10</td>
<td>.17</td>
<td>.06</td>
<td>.33</td>
<td>.39</td>
<td>.78</td>
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<tr>
<td>8. Performance-avoidance goal: normative</td>
<td>2.98</td>
<td>0.92</td>
<td>.27</td>
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<td>.72</td>
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<td>9. Performance-avoidance goal: nonnormative outcome</td>
<td>2.94</td>
<td>0.91</td>
<td>.32</td>
<td>.15</td>
<td>-.08</td>
<td>.44</td>
<td>.06</td>
<td>.69</td>
<td>.61</td>
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<td>10. Preference for challenging courses</td>
<td>3.58</td>
<td>0.90</td>
<td>-.27</td>
<td>-.02</td>
<td>.05</td>
<td>-.04</td>
<td>.43</td>
<td>.14</td>
<td>.23</td>
<td>.08</td>
<td>.04</td>
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<tr>
<td>11. Preference for easy courses</td>
<td>3.33</td>
<td>0.85</td>
<td>.42</td>
<td>.22</td>
<td>.03</td>
<td>.32</td>
<td>-.10</td>
<td>.34</td>
<td>.36</td>
<td>.40</td>
<td>.42</td>
<td>-.28</td>
</tr>
</tbody>
</table>

Note. Coefficients greater than |.10| are statistically significant at \( p < .05 \).
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1. Importance of ability 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2. Importance of ability 2 | .37 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 4. Perceived parental expectations 2 | .11 | .17 | .76 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 5. Perceived parental expectations 3 | .10 | .22 | .53 | .54 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 6. Perceptions of school mastery goal structures 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 7. Perceptions of school mastery goal structures 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 12. Mastery goal 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 14. Mastery goal 3 | .00 | .14 | .11 | .15 | .06 | .16 | .08 | .21 | .14 | .01 | .06 | .37 | .41 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 15. Performance-approach goal: normative 1 | .24 | .08 | .20 | .25 | .13 | .08 | .16 | .03 | .23 | .23 | .08 | .10 | .40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 16. Performance-approach goal: normative 2 | .21 | .01 | .14 | .20 | .13 | .01 | .13 | .01 | .19 | .27 | .27 | .16 | .21 | .40 | .75 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 17. Performance-approach goal: normative 3 | .17 | .13 | .07 | .09 | .01 | .17 | .10 | .08 | .13 | .10 | .22 | .21 | .04 | .28 | .59 | .51 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 18. Performance-approach goal: nonnormative outcome 1 | .26 | .05 | .22 | .17 | .11 | .05 | .14 | .01 | .29 | .33 | .24 | .09 | .05 | .35 | .65 | .63 | .46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(Continued on next page)
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 19. Performance-approach goal: nonnormative outcome 2 | .10 | .15 | .12 | .13 | .06 | .00 | .10 | .07 | .18 | .17 | .22 | .31 | .51 | .54 | .59 | .33 | .51 | .54 | .59 | .33 | .51 | — | — | — | — | — | — | — | — | — |
| 20. Performance-approach goal: nonnormative outcome 3 | .06 | .03 | .10 | .13 | .01 | .14 | .12 | -.02 | .12 | .16 | .24 | .26 | .11 | .33 | .51 | .46 | .62 | .45 | .34 | — | — | — | — | — | — | — | — | — | — | — |
| 21. Performance-avoidance goal: normative 1 | .29 | .20 | .19 | .22 | .13 | -.06 | .19 | -.06 | .27 | .33 | .20 | -.05 | -.07 | .17 | .59 | .59 | .50 | .53 | .33 | .54 | — | — | — | — | — | — | — | — | — | — |
| 22. Performance-avoidance goal: normative 2 | .27 | .02 | .14 | .15 | .14 | -.08 | .10 | -.08 | .16 | .21 | .22 | .04 | .07 | .27 | .56 | .60 | .43 | .54 | .40 | .42 | .62 | — | — | — | — | — | — | — | — | — |
| 23. Performance-avoidance goal: normative 3 | .18 | .10 | .09 | .12 | .06 | -.02 | .11 | -.03 | .24 | .28 | .28 | -.01 | -.02 | .01 | .38 | .37 | .43 | .39 | .16 | .33 | .41 | .34 | — | — | — | — | — | — | — | — |
| 24. Performance-avoidance goal: nonnormative outcome 1 | .34 | .18 | .19 | .16 | .13 | .00 | .14 | -.05 | .29 | .28 | .22 | -.05 | -.08 | .15 | .60 | .47 | .49 | .62 | .33 | .35 | .63 | .55 | .49 | — | — | — | — | — | — | — | — |
| 25. Performance-avoidance goal: nonnormative outcome 2 | .22 | .14 | .07 | .11 | .08 | -.11 | .18 | -.17 | .37 | .32 | .39 | -.04 | .04 | .19 | .53 | .58 | .43 | .52 | .35 | .56 | .54 | .61 | .39 | .55 | — | — | — | — | — | — | — |
| 26. Performance-avoidance goal: nonnormative outcome 3 | .20 | .20 | .04 | .10 | .04 | .09 | .10 | -.06 | .17 | .20 | .26 | .13 | .00 | .05 | .36 | .32 | .51 | .40 | .11 | .40 | .34 | .30 | .72 | .45 | .42 | — | — | — | — | — |
| 27. Preference for challenging courses 1 | -.07 | .18 | .06 | .06 | -.04 | .02 | .12 | .00 | .08 | .04 | .21 | .33 | .23 | .15 | .27 | .14 | .23 | .31 | .25 | .12 | .21 | .15 | .12 | .15 | .06 | — | — | — | — | — |
| 28. Preference for challenging courses 2 | -.16 | -.13 | -.11 | -.08 | -.03 | .07 | .04 | .14 | -.14 | -.09 | .06 | .31 | .20 | .10 | -.08 | -.01 | -.01 | -.07 | .04 | .01 | -.06 | -.01 | -.05 | -.08 | -.05 | .01 | .20 | — | — | — | — |
| 29. Preference for challenging courses 3 | -.16 | -.27 | -.04 | .04 | .04 | -.06 | .14 | -.02 | -.07 | .02 | .03 | .29 | .31 | .25 | .12 | .16 | .06 | .09 | .20 | .19 | -.02 | .10 | -.01 | -.04 | .10 | -.03 | .24 | .43 | — | — | — |
| 30. Preference for easy courses 1 | -.26 | .18 | .13 | .14 | .06 | .07 | .11 | .03 | .15 | .09 | -.01 | -.04 | -.05 | .10 | .21 | .18 | .18 | .37 | .13 | .14 | .32 | .21 | .16 | .31 | .17 | .12 | .25 | -.08 | -.12 | — | — |
| 31. Preference for easy courses 2 | .33 | .33 | .26 | .32 | .25 | .03 | -.01 | -.15 | .45 | .32 | .32 | -.16 | -.10 | .04 | .41 | .30 | .32 | .46 | .22 | .28 | .35 | .26 | .33 | .46 | .34 | .31 | -.01 | -.31 | -.22 | .41 | — | — |
| 32. Preference for easy courses 3 | .30 | .19 | .07 | .00 | .06 | .08 | -.11 | .05 | .17 | .11 | .14 | -.10 | -.13 | -.06 | .13 | .11 | .18 | .23 | -.02 | .09 | .22 | .14 | .20 | .29 | .11 | .20 | .00 | -.24 | -.50 | .35 | .34 | — | — |
hypothesized model to the empirical data. However, chi-square statistic is sensitive to sample size and often proves to be statistically significant in large samples (Kline, 2005). Therefore, we relied on other indexes for evaluating the adequacy of model fit. Specifically, values of TLI and CFI greater than .90 were judged to be acceptable, although those greater than .95 would be more desirable (Byrne, 2001; Kline, 2005). For RMSEA and SRMR, values less than .10 and .08, respectively, were interpreted as indicating an adequate fit (Browne & Cudeck, 1993; Kline 2005).

**Achievement goal CFA models**

We started out by testing an initial CFA model (i.e., Model A), which specified the five a priori goal factors including mastery (MAP), performance-approach: normative (PAPNRM), performance-approach: nonnormative outcome (PAPOUT), performance-avoidance: normative (PAVNRM), and performance-avoidance: nonnormative outcome goals (PAVOUT; see Figure 1). Unless otherwise noted, all factor loadings, factor variances, and error variances were statistically significant at \( p < .05 \) and substantial in magnitude.

The initial fit of Model A was not acceptable with TLI = .78, CFI = .83, and RMSEA = .13. Modification indexes suggested that three error covariance paths be added to improve the model fit. One path involved the PAPNRM and PAVOUT items, both of which start with the phrase, “An important reason that I study is. . . . ” The next two paths involved the PAPNRM and PAPOUT and the PAVNRM and PAVOUT item pairs. All four items start with the phrase, “I study for the purpose of. . . . ” Incorporating the three error covariance paths substantially improved the model.
FIGURE 2 Correlation coefficients among the goal factors from the three-factor models. MAP = mastery goal; PAPNRM = performance-approach goal: normative; PAPOUT = performance-approach goal: nonnormative outcome; PAVNRM = performance-avoidance goal: normative; PAVOUT = performance-avoidance goal: nonnormative outcome.

fit to an acceptable level, $\chi^2(77, N = 236) = 221.16, p < .001$ (TLI = .89, CFI = .92, RMSEA = .09 [90% CI = .08 to .10], SRMR = .08). In fact, modification indexes across all CFA models consistently suggested the same three error covariance paths be opened between the same pairs of items, indicating a wording effect. We thus retained these paths in all subsequent analyses.

As Figure 1 shows, except for the correlation between MAP and the two performance-avoidance goals (i.e., PAVNRM and PAVOUT), all inter-correlations among the goal factors were positive and substantial in magnitude. In particular, the correlation between PAPNRM and PAPOUT and that between PAVNRM and PAVOUT was $\phi = .96$ and .97, respectively, casting serious doubt on the discriminant validity of the normative and nonnormative outcome goal factors. The correlations among the rest of the performance goal factors were similarly high, ranging between .82 and .89.

Upon these results, we tested a number of alternative models (see Figure 2). First, we respecified Model A into a three-factor model by merging the normative and nonnormative outcome goal factors of the same valence. Model B thus consisted of MAP, performance-approach (PAP), and performance-avoidance goals (PAV) and essentially became the trichotomous model proposed by Elliot (1999, 2006). This model again demonstrated acceptable fit, $\chi^2(84, N = 236) = 231.31, p < .001$ (TLI = .90, CFI = .92, RMSEA = .09 [90% CI = .07 to .10], SRMR = .08), but the correlation coefficient between PAP and PAV was still too high ($\phi = .88$). We also tested Model C by merging the other pairs, specifically, the normative (NRM) and outcome goal factors (OUT) of the performance-approach and performance-avoidance goals, respectively. This three-factor model, comprising MAP, NRM, and OUT goals, showed marginally acceptable fit to the empirical data, $\chi^2(82, N = 236) = 272.68, p < .001$ (TLI = .87, CFI = .90, RMSEA = .10 [90% CI = .09 to .11], SRMR = .09), with two additional error covariance paths. These two paths again involved the PAPNRM and PAVOUT items starting with, “An important reason that I study is . . . ” and the PAPNRM and PAVOUT items starting with, “I study for the purpose of. . . . ” Despite the overall fit, the correlation coefficient between NRM and OUT was even higher ($\phi = .97$) than that between PAP and PAV in Model B.
We also fitted a second-order CFA model representing the theoretical assumption that the goal valence dimension is a more powerful discriminator than the goal definition dimension (Elliot, 1999), in an attempt to account for the correlations among the first-order performance goal factors. In Model D, each of the normative and outcome goal factors of different valence was specified as first-order factors and the two sharing the same valence were nested under the higher-order performance-approach or performance-avoidance goal factors, respectively (see Figure 3). The model fit was acceptable, $\chi^2(80, N = 236) = 227.63, p < .001$ (TLI = .90, CFI = .92, RMSEA = .09 [90% CI = .08 to .10], SRMR = .08), but the second-order PAP and PAV factors still displayed a correlation coefficient of .90.

The set of results led us to conclude that, at least for the Korean middle school students participating in this research, the normative and nonnormative focus or even the approach and avoidance distinction in a performance goal was not psychologically salient enough to warrant independent goal factors. The same students did, however, made a clear distinction between the mastery and performance goal factors. Consequently, we decided on a two-factor achievement goal model. We added eight error covariance paths suggested by the modification indexes, all judged to represent wording effects. These include the same five from the previous models and another three involving additional pairs of items with the phrase, “An important reason I study is . . . .” More specifically, a covariance path was opened between errors of the PAPOUT and PAVNRM, PAPOUT and PAVOUT, and two PAVNRM item pairs. This final model was able to
TABLE 3
Correlation Coefficients Among Latent Variables

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<th>Variable</th>
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<th>4</th>
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<td>1. Importance of ability</td>
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<td>3. School mastery goal structures</td>
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<td>4. School performance goal structures</td>
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<td>7. Preference for challenging courses</td>
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<td>8. Preference for easy courses</td>
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*p < .05, **p < .01, ***p < .001.

exhibit acceptable fit to the empirical data, \( \chi^2(81, N = 236) = 250.47, p < .001 \) (TLI = .88, CFI = .91, RMSEA = .09 [90% CI = .08 to .11], SRMR = .09).

**Full CFA model**

Before performing structural equation modeling, we tested a full CFA model with all latent variables. The model fit was only marginally acceptable, \( \chi^2(370, N = 236) = 779.27, p < .001 \) (TLI = .84, CFI = .87, RMSEA = .07 [90% CI = .06 to .08], SRMR = .08). Table 3 presents correlation coefficients among all latent variables. The mastery goal factor correlated positively with perceptions of school mastery goal structures (\( \phi = .33 \)) and preference for challenging courses (\( \phi = .58 \)) and negatively with perceived importance of ability for academic success (\( \phi = -.28 \)) and perceptions of school performance goal structures (\( \phi = -.26 \)). On the contrary, the performance goal factor correlated positively with perceived importance of ability for academic success (\( \phi = .33 \)), perceived parental expectations (\( \phi = .25 \)), perceptions of school performance goal structures (\( \phi = .48 \)), and preference for easy courses (\( \phi = .58 \)).

Perceived importance of ability for academic success displayed strong positive correlations with perceptions of school performance goal structures (\( \phi = .56 \)) and preference for easy courses (\( \phi = .72 \)) and negative correlations of weaker magnitude with perceptions of school mastery goal structures (\( \phi = -.24 \)) and preference for challenging courses (\( \phi = -.46 \)). It also displayed a weak positive correlation with perceived parental expectations (\( \phi = .28 \)). Perceptions of school mastery and school performance goal structures showed a negative correlation with each other (\( \phi = -.62 \)), as did preference for challenging courses and that for easy courses (\( \phi = -.60 \)). Mastery and performance goals displayed a positive correlation (\( \phi = .30 \)).

**Structural Equation Modeling**

Predictive relations among the hypothesized antecedents and consequents of achievement goals were tested using structural equation modeling. The model demonstrated marginally acceptable fit, \( \chi^2(374, N = 236) = 774.47, p < .001 \) (TLI = .85, CFI = .87, RMSEA = .07 [90% CI = .06 to .07], SRMR = .08). An additional error covariance path was incorporated between the perceptions of school mastery and perceptions of school performance goal structure items that
shared the same sentence structure, “In our school, . . . is more important than . . . ,” again representing a wording effect. Figure 4 shows statistically significant paths with standardized regression coefficients.

Perceived importance of ability for academic success was a negative predictor of a mastery goal ($\gamma = -0.33$), while perceptions of school mastery goal structures were its positive predictor ($\gamma = 0.37$). Perceptions of school mastery goal structures were also a positive predictor of a performance goal ($\gamma = 0.35$) but a substantially weaker one compared with perceptions of school performance goal structures ($\gamma = 0.64$). Contrary to our hypothesis, perceived parental expectations were not able to predict either achievement goal in the presence of perceptions of school goal structures. A mastery goal in turn positively predicted students’ preference for challenging courses ($\beta = 0.41$), the same way a performance goal did students’ preference for easy courses ($\beta = 0.40$). Perceived importance of ability for academic success also demonstrated a direct positive path to students’ preference for easy courses ($\gamma = 0.62$) and a direct negative path to students’ preference for challenging courses ($\gamma = -0.32$).

**DISCUSSION**

Achievement goals had been classified into two, three, and four different types in the literature. Moreover, findings regarding achievement goal effects were not consistent across studies, especially with regard to the performance-approach goal. Grant and Dweck (2003) argued that at least three different conceptualizations could be located under the name of a performance-approach goal and the difference between them might be liable for the mixed effects. Our aim was to see if the normative excellence goal and the nonnormative outcome goal among these three conceptualizations could be reliably differentiated.

**Achievement Goal Dichotomy: Back to Where It Started**

Quite unexpectedly, our results showed that only mastery and performance goals were clearly defined in our sample. The Korean middle school students participating in this research did not make meaningful distinctions between different types of performance goals, regardless of whether the goal stressed normative excellence or nonnormative outcomes or was of positive or negative valence. Instead, the original dichotomy proposed by Dweck (1986, 1999) best represented the Korean adolescents’ achievement goal pattern.

This result is surprising because we explicitly distinguished between normative and nonnormative goal components in our assessment. We believe two related factors might jointly explain our findings. One such factor is the timing of this research. The surveys were administered at the end of the semester, after the students had taken the final examinations and been notified of their grades. Evaluation is a factor that wields the greatest impact on student motivation in classroom learning situations (Ames, 1992). For example, Bong (2005) found that students’ perceptions of the performance goal structures in three specific subject classes as well as general school atmosphere increased significantly after major examinations. Therefore, there exists a possibility that the latest episodes of test-taking and receiving achievement feedback sensitized students to respond somewhat differently to the achievement goal items than they normally would.
FIGURE 4 Standardized path coefficients from the structural equation model. * $p < .05$, ** $p < .01$. 
Another related and perhaps more critical factor, we believe, is the nature of the learning contexts. This conjecture is based on the facts that perceptions of learning environments are a known antecedent of achievement goals and the participating school was presumed to maintain highly competitive culture because of the absence of high school equalization in its district (Kim, 2002). When students are exposed to competitive grading and frequent testing, they correctly perceive their classrooms as performance-oriented and this perception affects their motivation (Ciani, Middleton, Summers, & Sheldon, 2010). The students participating in this research indeed reported statistically stronger perceptions of performance goal structures ($M = 3.25$, $SD = 0.93$) than mastery goal structures in their school ($M = 2.97$, $SD = 0.94$), $t(235) = 2.80$, $p < .05$.

Bong (2003) observed that Korean classrooms are characterized by their highest visibility and comparativeness of competence. Korean schools employ a normative grading system, in which the subject grades are determined by students’ within-grade ranks in each subject matter area and their overall grades are determined by combining students’ within-grade ranks across key subject matter areas. The extreme competition in school fits the definition of a performance-focused learning environment, where success is defined as high grades as well as high normative performance, with value placed on normatively high ability (Ames & Archer, 1988). When an outcome is defined in such a highly normative fashion, the distinction between normative excellence and nonnormative positive outcomes becomes meaningless because a successful outcome depends on and, at the same time, is evidence of normative superiority. “Doing well” in those settings is synonymous to “performing better than others.” This may partly explain the students’ failure to distinguish between normative and nonnormative performance goals.

What caused the strong correlation between the approach- and avoidance-focused performance goals? Studies conducted with Korean students of varying ages tend to report substantially stronger association between performance-approach and performance-avoidance goals compared with that observed in U.S. samples (e.g., see Bong, 2005, 2008, 2009). We thus suspect that Korean learning environments were once again partly responsible for this trend. Roeser (2004) argued that, for students in threatening learning environments with a strong focus on ability and normative excellence, not failing becomes an issue as important as succeeding, if not more. A motive for self-worth protection becomes strong (Covington, 1992) and this in turn drives students to simultaneously pursue the goal of demonstrating their superior ability and the goal of concealing their inferior ability. High visibility of relative performance coupled with limited opportunity for success yield many Korean classrooms to be such “threatening” environments (Bong, 2003). The strong inter-correlation among the approach and avoidance performance goal components observed in the present study, therefore, could be due to the characteristics of the learning environment.

Nevertheless, a possibility that our findings represent more than culture-specific phenomena cannot be completely ruled out. According to Roeser (2004), the correlation between performance-approach and performance-avoidance goals went up to as high as .90 among samples of U.S. students, after correcting for unreliability in the assessment scales. Strong correlations between the two performance goals commensurate to those observed in Korean studies have been reported in other U.S. studies as well (e.g., Pugh, Linnenbrink-Garcia, Koskey, Stewart, & Manzey, 2010). A common feature in the studies reporting particularly strong correlations between approach and avoidance components is the definition of performance goals that emphasizes both normative competence and validation of ability. Performance-approach goals are defined as the goal of achieving normative superiority and demonstrating one’s ability to others,
whereas performance-avoidance goals are defined as that of avoiding normative inferiority and concealing one’s lack of ability from others. We cautiously suggest, therefore, despite recent calls for distinguishing the normative focus from the validation concerns when assessing performance goals (e.g., Elliot & Murayama, 2008), these two motivations might be too closely intertwined to be separated. It will be a worthwhile endeavor in future research to find out the conditions under which the two performance goal components more clearly factor out and whether the strong correlation between the approach and avoidance components is still witnessed when the definition of performance goals strictly concerns normative competence only.

Mastery and Performance Goals as Conduits Between Contexts and Behavior

Because we ended up with a single performance goal, we were not able to examine the differential role we hypothesized for each of the performance goal components. Nonetheless, the present results shed some light on the question whether a performance goal represents an adaptive form of motivation. It is worth noting that the students participating in this investigation clearly differentiated between the mastery and performance goals, even when they failed to distinguish between different components of a performance goal. Moreover, these two achievement goals demonstrated a pattern predicted by Dweck’s original goal dichotomy and implicit theories of intelligence (Dweck & Leggett, 1988; Elliott & Dweck, 1988).

It appears that students who believed in the importance of ability for academic success became concerned primarily with demonstrating their ability rather than with learning new things. Because success signifies high ability for these students, especially when it is achieved with little effort, they expressed stronger preference for easy and fail-safe courses in which good grades were guaranteed. At the same time, they were less likely to either endorse a mastery goal or take challenging courses, presumably because the risk of potential failure after a good deal of effort poses a threat to their self-worth (Dweck, 1999). Looking smart seemed less of a concern for the mastery-oriented students, however, who demonstrated a clear preference for challenging courses even if these courses were difficult.

The two achievement goals functioned as conduits between perceptions of the learning environment and preference for challenge. Whereas perceiving performance goal structures in school predicted only students’ performance goals, mastery goal structures in school predicted both students’ mastery and students’ performance goals. There was no direct path from perceptions of the learning environment to students’ preference for future courses. Whether achievement goals are viewed as underlying purposes behind students’ achievement-related behavior (Ames, 1992; Dweck & Leggett, 1988; Midgley et al., 2001) or cognitive-dynamic representations of competence-based possibilities (Elliot, 1999; Elliot & Church, 1997; Elliot & Harackiewicz, 1996), the present results once again demonstrate their role as a cognitive “filter” through which students interpret competence-relevant information while making achievement-related decisions.

In the present study, perceived parental expectations failed to predict students’ achievement goals. Given the significant positive correlation of perceived parental expectations with students’ performance goals (\( \phi = .25, p < .001 \)), their failure to show a direct link to the performance goal factor appeared to be due to the presence of more powerful predictors in the model. Perceived parental expectations correlated with perceived importance of ability for academic success (\( \phi = .28, p < .001 \)) and perceptions of school performance goal structures (\( \phi = .41, p < .001 \)), both of which correlated more strongly with students’ performance goals (\( \phi_s = .33 \) and .48, both
Also interesting were the strong inter-correlations among beliefs in the importance of ability for academic success, perceived parental expectations, and perceptions of school goal structures. Students who believed that ability was an essential ingredient for success in school perceived a stronger focus on competition and relative ability and a weaker emphasis on learning and task mastery in their school environment. They also felt higher expectations from their parents to achieve well in school. Given that beliefs in the nature of ability represent more stable individual characteristics, it is possible that these beliefs create a different framework for students which they use when interpreting achievement-relevant messages from their parents and teachers. This interpretation is consistent with Dweck’s (1999) idea of theories of intelligence as a meaning system that affects what students value, how they approach learning tasks, and how they interpret and respond to what happen around them. Unfortunately, the correlational nature of our data does not allow us to make a firm statement regarding the causal or even temporal precedence among these variables.

Are performance goals adaptive? As can be seen in the relation of a performance goal to the preference for easy courses in this study, students high on a performance goal made sure to follow paths that would guarantee them high grades without having to face real challenges. They were willing to do so even at the price of giving up things they might find interesting. It is difficult to claim this is an adaptive form of learning. Midgley and colleagues (2001) urge educators to ponder for whom and under what circumstances performance goals might truly be beneficial. Some researchers have proposed that the adaptive effects of personal performance goals may be best demonstrated in performance-oriented situations (e.g., Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). If the school environment that the participating students came from was actually as competitive and strongly performance-oriented as we suspected earlier, then the present results show that adopting a performance goal have hidden costs even in such highly performance-focused settings.

Overall, the present investigation adds more empirical evidence to the literature on the role of perceived social-psychological environment in students’ adoption of particular achievement goals and the role of these goals in specific behavioral intentions. While our study failed to find supporting evidence for Grant and Dweck’s (2003) proposal regarding multiple types of performance goals, the rest of the results are highly consistent with the existing literature. This study raises the possibility that salient characteristics of the learning environment might negate potentially important distinctions between achievement goals, including their valence (e.g., see Lau & Nie, 2008). We suggest that future research test whether the extremely high correlations among the performance goal components observed in the present study represent generalizable findings across heavily performance-oriented learning environments or culture-specific idiosyncrasies.

Limitations and Directions for Future Research

Several limitations should be noted. First, some of the scales used in the present study displayed low reliability. Although confirmatory factor analysis and structural equation modeling use only the common variance and thus correct for measurement error to a certain degree, no statistics could fully compensate for poor measurement. Second, we defined achievement goals as underlying reasons and purposes of achievement-related behaviors and the resultant goals fit this
theoretical definition. However, a recent meta-analysis on achievement goal findings showed that differences in construct definitions could lead to important differences in the conclusions and implications regarding the achievement goal effects (Hulleman et al., 2010). We are curious whether portraying normative excellence and nonnormative outcomes as aims rather than reasons could produce differences in the relations of achievement goals with their antecedents and consequents. Third, we attributed many of our findings to the highly competitive, performance-oriented, and threatening climate of Korean secondary schools. Our data provide some support for this conjecture. Nonetheless, because there was no comparison group, we cannot be certain whether the participating school possessed these characteristics more than did other Korean schools or even schools in other cultures. We strongly encourage researchers to identify schools and classrooms with contrasting learning climate as represented by their focus on competition, task mastery, and ability orientations and examine the differences they create in the association of approach and avoidance motives as well as concerns for normative and nonnormative excellence. Last, this was a correlational study in which all variables were assessed simultaneously. Causal interpretations of the present findings should be avoided.

AUTHOR NOTES

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