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Achievement Goals in Context:  
Exploring Goal Orientation in a Cross-Cultural Sample of Gifted Adolescents

By

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Committee in charge:

Professor Frank Worrell, Chair  
Professor Susan Holloway  
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## Abstract

## Achievement Goals in Context:

## Exploring Goal Orientation in a Cross-Cultural Sample of Gifted Adolescents

by

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Doctor of Philosophy in Education

University of California, Berkeley

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This study examined four types of achievement goals (mastery goals, performance approach normative goals, performance approach appearance goals, and performance avoidance goals) in academically talented adolescents from the US ( $n = 526$ ), China and Taiwan ( $n = 33$ ), Singapore ( $n = 20$ ), and South Korea ( $n = 23$ ). Over the past 30 years, researchers in the US have moved toward increasingly nuanced understandings of achievement goals; however, achievement goals have not been measured with the same precision in cross-cultural and gifted populations. Furthermore, overrepresentation of Asian American students in U.S. gifted programs raises questions about the role of culture within the US and cross-culturally. After a detailed overview of historical and conceptual changes to the achievement goal construct, this exploratory study used existing data to determine whether there are differences in the prevalence of these goals across samples.

Using two forced-choice measures of achievement goals (Task-choice Goal Measure and Questionnaire Goal Choice), mastery goals were most prevalent in all national samples and all U.S. ethnic groups. Performance avoidance goals were reported most by students in the US and least by students in China and Taiwan, although East Asian American students in the US reported performance avoidance goals at an even higher rate than did the U.S. sample overall. Performance approach appearance goals were largely absent in the samples from South Korea and Singapore. Among ethnic groups in the US, performance avoidance goals were most common among students who belonged to groups typically overrepresented in gifted populations and least common among underrepresented groups. Differences by sample and by achievement goal choice were examined in five theorized correlates of achievement goals: perceived challenge, self-reported learning, course enjoyment, perceived competence in the summer class, and perceived competence at their home schools. Course enjoyment was highest among students with mastery goals. Implications for measurement of achievement goals, future cross-cultural research in on motivational constructs, and differences in the cultural context of learning among U.S. ethnic groups are discussed.

## Acknowledgements

Forgive me if I nerd out a little here (but if not here, where?). As someone who studies motivation and academic achievement, I have turned my lens inward many times during graduate school. One important thing I have come to understand about myself is that I derive information about what I can accomplish most readily from knowledgeable, trusted people around me. This dissertation is a testament to the presence and power of those people, and I cannot let this moment go by without taking the time to thank them.

Thank you to the steadfast Professor Frank C. Worrell, my *wise* advisor who introduced me to my favorite topics and taught me how far high standards, integrity, and a little bit of song can take a person. I am also deeply grateful to the members of my dissertation and qualifying exam committees, Professors Susan Holloway, Darlene Francis, and Aki Murata, who each showed me that the best science *embraces* the full humanity and complexity of everyone involved.

There is no way to adequately acknowledge the Academic Talent Development Program. They did not know when they accepted me into the program in 6<sup>th</sup> grade that I would really hold them to their mission of helping students develop academic talent and pursue high levels of achievement! At the most basic level, they made this dissertation possible by employing me throughout my graduate study, supporting my professional development, and helping me to collect valuable data. Also essential, however, were the endless support, encouragement, and knowledge that when I encountered the growing pains of graduate school, I always had somewhere to go where I felt competent and valued as a person and a professional (which reminds me of another motivational framework – my ATDP interns may know which one). Dr. Lisa Kala, Carrie Brown, and my wonderful friends, colleagues, and mentors (Dev, Mildred, Erin, Kass, Abe, Lloyd, Nina, et al.) – your seamless presence and abundant support in my work, school, and personal lives is a gift that I could never have imagined and sometimes still struggle to explain to others. Thank you.

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## **Dedication**

To Tolman Hall, whose stairwells always smelled like summer  
and to my Granny, whose pride in me was the spark that started me on this journey.

## **Achievement Goals in Context: Exploring Goal Orientation in a Cross-Cultural Sample of Gifted Adolescents**

Among the many different aspects of achievement motivation, the question of what goals students hold for themselves and how those goals operate is one of the most commonly studied (Pintrich, 2003). However, despite decades of study, our understanding of how best to conceptualize achievement goals remains in flux (Elliot, 2005). Numerous articles have been published in explicit attempts to clarify or revise the achievement goal construct (e.g., Elliot, 2005; Grant & Dweck, 2003; Hulleman, Schragger, Bodmann, & Harackiewicz, 2010), indicating an active struggle in the field to define and operationalize achievement goals. Meanwhile, understanding how these goals may differ across cultures presents another open question. Particularly given increasing numbers of international students studying in Western contexts, it is important to understand how achievement goals may differ as a function of culture and context (Dekker & Fischer, 2008).

This study is conducted in light of revisions to achievement goal theory (e.g., Elliot, 1999; Hulleman et al., 2010) and calls for attention to culture and context in motivation research (Zusho & Clayton, 2011). I will first outline major components of achievement goal theory, focusing on shifts in the way achievement goals have been conceptualized over time. Then, I will elaborate on the relationship between achievement goals and growth mindset, illuminate key cultural differences in the achievement goal literature, and discuss the stability of achievement goals over time, in different domains, and in the context of high academic ability. Finally, I will use previously collected data to explore potential differences in achievement goals in samples of gifted and talented students from the US, China, Taiwan, South Korea, and Singapore.

### **Achievement Goal Theory**

One of the dominant frameworks for understanding student motivation is achievement goal theory. Although there have been a number of proposed frameworks for conceptualizing achievement goals (Elliot, 2005) and a number of different labels used to describe goal constructs (Grant & Dweck, 2003; Hulleman et al., 2010; Senko, Hulleman, & Harackiewicz, 2011), the hallmark of this literature is that it focuses on student goals that fall into two categories: *mastery goals* (also called task orientation, task goals, or learning goals) and *performance goals* (also called ego orientation, ability goals, or self-enhancement goals). Since early conceptualizations of achievement goals (e.g., Ames, 1992; Elliott & Dweck, 1988; Nicholls, 1984), the field has moved toward more complex and nuanced models that seek to explain not just which goals are most adaptive but also which goals are adaptive for whom and under what circumstances. The following sections review some key developments in the field that are relevant to this study.

**Definitions and developments.** Hulleman et al. (2010) defined achievement goals as cognitive representations focused on either developing competence (mastery goals) or demonstrating competence (performance goals). Though even early theorists used a variety of terms, they were unified by a focus on two types of goals and by a belief that mastery goals were superior. For example, E. S. Elliott and Dweck (1988) experimentally tested the effect of achievement goals on patterns of achievement behavior in fifth grade students. Students in the performance goal condition were told that they were being filmed and normatively evaluated, and students in the mastery goal condition were told that the task sharpens the mind and learning to do it could help them in school.

The researchers predicted that when a performance goal was highlighted and the student perceived herself to have high ability, the student would demonstrate a mastery-oriented response to challenges, including strategy formulation, positive affect, and sustained performance. When a performance goal was highlighted and the student perceived herself to have low ability, the researchers predicted that the student would demonstrate a learned helplessness response to challenges, including low ability attributions, deterioration in problem solving, and negative affect. When a mastery goal was highlighted, however, the researchers predicted that students would maintain mastery-oriented responses to challenge whether they believed they had high or low ability.

The results of the study supported these hypotheses, suggesting not only that students' behavior patterns could be predicted by achievement goals but also that achievement goals can be influenced by environmental circumstances such as the way a task is presented (Urduan, 2001). E. S. Elliott and Dweck's (1988) and similar conceptualizations of achievement goals suggested that performance goals were more fragile than mastery goals and would leave students vulnerable to maladaptive responses to difficulty, especially for students who doubted their ability (Senko et al., 2011) or when there was a possibility of failure (Dweck, 2000).

In subsequent studies, mastery goals have been associated with a number of positive outcomes, including interest, persistence, cooperation, help-seeking, self-regulation, deep learning strategies, and positive affect (Elliott, 1999; Senko et al., 2011). However, many studies showed no direct relationship between mastery goals and academic achievement. Results related to performance goals were largely inconsistent, sometimes showing negative, null, or positive relationships with achievement (Elliott, 1999). Recent developments in achievement goal theory have come largely from attempts to clarify different aspects of performance goals and how they may support or hinder achievement.

**Performance approach goals vs. performance avoidance goals.** In response to inconsistent findings regarding performance goals, A. J. Elliot (1999) proposed that achievement motivation processes would be more fully explained with the addition of a *valence* dimension. He drew from other motivational frameworks to suggest that performance goals, in particular, might be better understood if they were differentiated into *performance approach goals* (focused on attaining normative competence) and *performance avoidance goals* (focused on avoiding normative incompetence). He argued based on systematic reviews of the literature (A. J. Elliot, 1994; Elliot & Church, 1997) that this *trichotomous model* would improve the predictive utility of the achievement goal framework. A. J. Elliot's (1994) re-categorization of the empirical literature suggested that performance goals classified as approach were related to intrinsic motivation at comparable levels to mastery goals, and performance goals classified as avoidance "tended to undermine intrinsic motivation relative to mastery goal manipulations or control groups" (Elliott, 1999, p. 174). His analysis suggested that this approach-avoidance dimension more consistently explained mixed results related to performance goals than did Dweck's (1986) hypothesis that the effect of performance goals depended on the student's perceived competence. In fact, performance-avoidance goals seemed to account for many of the negative effects attributed to performance goals in general (Senko et al., 2011). Although the approach-avoidance dimension could also be applied to mastery goals, the relatively consistent findings in the literature regarding mastery goals suggested that differentiation may not be needed (A. J. Elliot, 1999).

Differentiation of performance-approach and performance-avoidance goals reflected increased focus on the adaptive outcomes associated with performance-approach goals (Harackiewicz et al., 2002; Hulleman et al., 2010). Harackiewicz, Barron, and Elliot (1998)



proposed a multiple goal perspective in which performance and mastery goals may produce unique benefits and combine for optimal motivation. This multiple goals model reflected Urdan's (1994) assertion that mastery versus performance was a false dichotomy and that, in fact, both were important. Among the three types of goals proposed by A. J. Elliot (1999), some patterns have emerged in the literature. Mastery goals have been consistently shown to facilitate intrinsic motivation, and performance-avoidance goals consistently undermine intrinsic motivation, which in turn predicts academic achievement (see Dinger, Dickhäuser, Spinath, & Steinmayr, 2013, for a review and mediational model). However, as was the case with performance goals before the approach-avoidance distinction was made, performance-approach goals seem to have inconsistent and weak relationships with intrinsic motivation and academic achievement (Dinger et al., 2013). Hulleman et al. (2010) reviewed the literature and found, again, that inconsistent results in the literature could be illuminated by making further distinctions in the ways that performance goals were operationalized.

**Normative goals vs. appearance goals.** Further differentiation of performance-approach goals suggested that there may be a difference between a desire to perform in relation to normative criteria (doing well) and a goal simply related to self-presentation (looking smart) (Hulleman et al., 2010; Senko et al., 2011). Early definitions of performance goals differed in their emphasis on social comparison, and these different definitions led to variation in the measurement of performance goals (Grant & Dweck, 2003). Hulleman et al. (2010) re-classified 98 studies based on the items used to measure performance goals and found that on average, those classified as *normative performance goals* were positively correlated with achievement, and those classified as *appearance performance goals* were negatively correlated with achievement. They also demonstrated that Utman's (1997) meta-analysis, which concluded that performance goals were associated with lower task performance than were mastery goals with a medium effect size of  $d = .53$ , relied heavily on experiments that measured appearance performance goals. The two studies in the meta-analysis that measured normative performance goals, in contrast, found no differences in task performance between performance and mastery goals (Senko et al., 2011). Senko et al. (2011) reviewed the literature with this in mind and found that appearance performance goals tended to be associated with test anxiety, low self-efficacy, low interest, and low effort. Normative performance goals, however, have been linked to achievement in the United States and Western Europe from middle school to advanced college seminars. In fact, normative performance goals were linked more reliably to achievement than were mastery goals (Senko et al., 2011).

This distinction between normative and appearance performance goals may help to clarify the unique effects of performance goals alongside mastery goals. For example, Barron and Harackiewicz (2003) looked at college students in advanced seminar classes and found that mastery goals were correlated with interest but not achievement, and normative performance goals were correlated with achievement but not interest. See Table 1 for an overview of correlates of mastery, performance avoidance, normative, and appearance goals. Senko, Belmonte, and Yakhkind (2012) found that mastery-focused students judged interest-arousing qualities most essential in an instructor, and normative-focused students judged clarity the most essential. Senko et al. (2011) proposed and evaluated number of potential explanations for the strong association between performance goals and achievement. One was that mastery-focused students may learn more or just as much but in ways that are not captured by normative achievement measures because performing well on those measures is not their primary goal. Another is that students pursuing normative performance goals may be especially adept at assessing a teacher's learning agenda and creating a strong fit between their own learning

strategies and the teacher's expectations. In this case, mastery-oriented students may do better in more advanced classes requiring deep learning strategies; however, further study is needed in order to draw conclusions about how relationships between how mastery and normative performance goals may operate in challenging environments (Senko et al., 2011).

### **Achievement Goals and Implicit Theories of Intelligence**

Antecedents of different achievement goals have also been an area of great interest in this literature. In particular, Dweck and colleagues (e.g., Dweck, 1986; Dweck & Elliott, 1988) proposed that achievement goals may vary based on whether the student holds an entity or incremental theory of intelligence, or what has now been popularized as a *fixed* mindset (*entity* theory of intelligence) or *growth* mindset (*incremental* theory of intelligence). In fact, this construct of implicit theories of intelligence was developed to explain why students adopt different goal orientations that eventually help or hinder their selection of mastery-oriented achievement behaviors (Dweck & Leggett, 1988). Dweck and Leggett (1988) proposed that these implicit theories or mindsets, which individuals may not even be aware of holding, set in motion patterns of cognitions and behavior by which students generate and maintain self-esteem (Burnette et al., 2013). In combination with achievement goals, Dweck and Leggett (1988) suggested that implicit theories of intelligence represent two different forms of self-concept with different sources of self-esteem: mastery and performance.

As discussed in the previous sections, current theorists see achievement goals as operating concurrently rather than in opposition to one another. Dweck and Leggett (1988), foreshadowing multiple goals models, acknowledged that performance goals can be adaptive and that successful coordination of mastery and performance goals may be particularly adaptive. However, they asserted that a student's overconcern with proving their adequacy, operationalized by Dweck (2000) as a preference for performance-supportive tasks over mastery-supportive tasks, may lead individuals to undermine potential learning opportunities. Dweck (2000) reported that when multiple goals measures were used to assess mastery and performance goals independently, no differences were found between entity and incremental theorists (i.e. students who held a fixed versus a growth mindset). However, when she and her colleagues (e.g., Dweck & Leggett, 1988; Elliott & Dweck, 1988) used measures that forced students to choose a mastery-oriented task or a performance-oriented task, they did find the hypothesized relationships between achievement goals and theories of intelligence.

Conclusions about links between implicit theories and achievement goals have been inconsistent, and Burnette et al. (2013) highlighted the absence of the approach-avoidance distinction in this research as a likely contributor to the inconsistency. Interestingly, although the trichotomous (mastery, performance-approach, performance-avoidance) model of achievement goals had not yet been introduced, Dweck and Leggett (1988) made a distinction in their analysis between challenge-seeking performance goals ("I'd like problems that are hard enough to show I'm smart") and challenge-avoidant performance goals ("I'd like problems that aren't too hard, so I don't get many wrong," p. 263). They found that whereas mastery goals were associated with incremental theories and challenge-avoidant performance goals were associated with entity theories, challenge-seeking performance goals were not meaningfully related to either mindset. This finding mirrors the inconsistent results regarding the relationship between performance approach goals and achievement, suggesting that further differentiation of performance goals may help to clarify the influence of implicit theories of intelligence (Burnette et al., 2013; Dinger & Dickhäuser, 2013).

Dinger and Dickhäuser (2013) tested the effect of implicit theories of intelligence on mastery, performance-approach, and performance-avoidance goals in a sample of German university students. Students were recruited to participate in what they thought was a study about mood and memory, and they were given articles to read during a break that either implied that intelligence was fixed or that it was malleable. Students were surveyed regarding theories of intelligence after the experimental manipulation took place in order to verify the effectiveness of the manipulation and to allow the experimenters to draw conclusions about causation. Having an incremental theory of intelligence predicted endorsement of mastery goals and performance-avoidance goals with a small effect size but did not predict performance-approach goals. Students' implicit theories of intelligence mediated the effect of experimental condition, and results were reported after controlling for students' beliefs about the importance of intelligence and beliefs about whether effort compensates for low intelligence. Using the trichotomous model of achievement goals, Dinger and Dickhäuser were able to demonstrate a causal relationship between implicit theories of intelligence, mastery goals, and performance-avoidance goals. Their findings also reinforced the existing pattern of weak relationships between performance-approach goals as measured under the trichotomous model and outcomes (see Burnette et al., 2013 for a review of the role of the approach-avoidance dimension in self-regulatory processes, including achievement goals).

Dinger et al. (2013) also conducted a study looking at the meditational role of achievement goals in a sample of German adolescents in a selective high school. Incremental (growth) theories of intelligence had a positive effect on academic achievement via mastery goals and intrinsic motivation (i.e., incremental theories predicted mastery goals, which in turn predicted intrinsic motivation, which ultimately predicted academic achievement), as did perceived competence and hope of success. Implicit theories of intelligence did not predict performance-approach or performance-avoidance goals; however, perceived competence, hope of success, and fear of failure predicted performance-approach goals, and fear of failure predicted performance-avoidance goals. Implicit theories of intelligence and perceived competence did not predict performance avoidance goals when controlling for the intercorrelation between the two, suggesting that “individuals may adopt performance-avoidance goals only if they view their intelligence as fixed *and* hold low perceptions of their capabilities” (p. 98). Although Dinger et al. (2013) interpreted this finding as contradictory to existing achievement goal theory, it supports Dweck's (1986; Elliott & Dweck, 1988) hypothesis that it is the combination of low perceived competence and entity theories that leads to failure-averse achievement behaviors consistent with the learned helplessness profile.

Dweck and Leggett (1988) asserted that the task of motivation and personality researchers was “to identify major patterns of behavior and link them to underlying psychological processes” (p. 256). The recent work of Dinger and colleagues (Dinger & Dickhäuser, 2013; Dinger et al., 2013) has made major contributions in terms of understanding how a constellation of motivational processes may operate together in Western educational contexts. However, contemporary scholarship in this area should continue to expand its mission to include investigation of the cultural and social context in which these psychological processes occur.

### **Achievement Goals and Culture**

Much of the achievement goal literature has focused on drawing comparisons between Western and East Asian participants (Zusho & Clayton, 2011), and a number of heuristics have been used in attempts to understand broad differences in the people who inhabit these regions.

Western and East Asian societies have been described, respectively, as individualistic and collectivistic (see Schwartz, 1994) and valuing ability versus effort (e.g., Holloway, 1988). Holloway (1988) unpacked some of the ways in which ideas of effort and ability took on different meanings in the social contexts of the US and Japan. In Japan, it seemed that effort and ability worked together toward socially shared goals, in contrast to the US, where effort and ability were seen as inversely related (Nicholls & Miller, 1984). According to Nicholls and Miller (1984), very young American children viewed ability as fluid and effort as the major determinant of outcomes. As children began to differentiate ability from effort, they began to see ability as a moderator of the relationship between effort and outcomes. Around sixth grade, children reached a *mature* stage of understanding in which ability was seen as a capacity and effort implied a lack of capacity. In essence, American students developed a view that if someone has to try hard, it is because they are lacking in ability.

However, much like achievement goals (Elliott & Dweck, 1986; Urdan, 2001), students' use of this ability-over-effort view appeared to be moderated heavily by the social environment (Nicholls & Miller, 1984). With this understanding, Holloway (1988) explored some of the ways in which stable family and early school structures in Japan facilitated task involvement, which was conceptually similar to adoption of mastery goals. A major takeaway from Holloway's (1988) work was that attention must be paid to cultural meanings of concepts like effort, ability, success, and failure and that the conditions under which certain motivational orientations thrive are often specific and culturally embedded. In particular, analyses like these call into question the assumptions researchers may make about the generalizability of the relationship between growth mindset (the belief that intelligence can improve with effort) and achievement goals.

In an unpublished study, Kim, Grant, and Dweck (1999, as cited in Grant & Dweck, 2001) investigated the relationship between effort attributions and achievement goals in a sample of Korean 5<sup>th</sup> graders. Whereas American researchers often draw connections between effort attributions and mastery goals (e.g., Dweck, 1986; Hulleman et al., 2010), Kim et al. (1999) found that their participants were more likely to endorse performance goals even while making effort attributions. Grant and Dweck (2001) hypothesized that "if one feels a sense of responsibility to a group for one's performance," as East Asian groups are often characterized, "then even an effort-oriented individual can no longer avoid focusing on the importance of a single outcome" (p. 210).

In an experiment with American students (Grant & Dweck, 2001), some students were told to imagine working on a project independently (independent sense of self), and others were told to imagine that their independent work would be added to other students' work and would have ramifications for the entire group's grade (interdependent sense of self). In addition, half of the students were told that performing well in this course was a matter of ability, and half were told that anyone could do well if they put in enough effort. Then, all students were asked to imagine that they did poorly and were asked how they would feel. Students in the effort conditions, both independent and interdependent, felt that they could do better in the future and reported that they would be willing to try again. However, students in the interdependent condition, whether effort or ability focused, reported feeling anxiety, guilt, and embarrassment. In fact, students in the effort-interdependent condition, simulating Dweck and Grant's (2001) observation of Korean students, indicated the greatest feelings of guilt. The researchers concluded that if an interdependent sense of self necessitates performance goals, these goals may moderate responses to failure among effort-focused students. This conclusion complicates Western assumptions about the relationships between effort, achievement goals, and social goals

and reinforces the need to better understand the many meanings captured by performance goal measures in the literature.

**Achievement goals in cross-cultural research.** Zusho and Clayton (2011) outlined existing approaches to studying culture and motivation and gave their recommendations for future study of achievement goals and cultural factors. Most achievement goal theory research seems to fall into the category of cross-cultural psychology, which “primarily investigates similarities and differences among and across cultural groups by focusing on whether the patterns of relations among goals and learning outcomes are consistent across cultures” (Zusho & Clayton, 2011, p. 246). The limitations to this approach are that it can present a simplistic view of dynamic processes in context, that it focuses on between-group differences at the expense of understanding within-group variation, that it treats culture as a static antecedent, and that it relies on survey instruments usually designed for Western contexts. However, there are also benefits of this “exploration and discovery” approach (Zusho & Clayton, 2011, p. 241). One of the goals of this type of cross-cultural research is to begin to tease apart culturally specific versus universal phenomena. Detecting mean differences across groups allows researchers to then investigate why certain theories fail to generalize across cultural contexts (Zusho & Clayton, 2011). In much the same way that achievement goal theory has undergone revision and differentiation in order to better explain inconsistent results, exploratory cross-cultural research can point the way to further refinement of theories in order to adequately capture universal psychological processes.

Thus far, most cross-cultural research on achievement goals suggests minimal cross-cultural differences (Zusho & Clayton, 2011), though Bong (2005, 2009) has found a stronger association between performance-approach and performance-avoidance goals in Korean samples than is seen in U.S. samples (Bong, Woo, & Shin, 2013). Results demonstrate consistent positive effects with mastery goal endorsement, negative results with performance-avoidance goal endorsement, and again, mixed findings with regard to performance-approach goals. For example, Shih (2005) found that the trichotomous model was applicable in a sample of 6<sup>th</sup> graders in Taiwan. Similar to findings in the US, performance-avoidance goals were associated negatively with strategy use and intrinsic motivation and positively with test anxiety. Performance-approach goals were positively related to strategy use and intrinsic motivation and negatively related to test anxiety, though not as consistently so (regarding any of the positive outcomes) as mastery goals. Shih (2005) used A. J. Elliot and Church’s (1997) Achievement Goals Questionnaire, which Senko et al. (2011) determined to focus on normative performance goals. Zusho and Clayton (2011) suggested that a desire to live up to socially shared standards compared to outperforming others may be one way in which performance goals are developed differently across cultures, reflecting precisely the normative-appearance distinction observed by Hulleman and colleagues (2010).

Dekker and Fischer (2008) conducted a meta-analysis on cultural differences in achievement goals, drawing on A. J. Elliot’s (1999) trichotomous framework of achievement goals and Schwartz’s (1994) societal value framework. Rather than using countries as the unit of analysis, Schwartz’s framework maps cultural values onto three dimensions: egalitarianism vs. hierarchy, autonomy vs. embeddedness, and harmony with nature vs. mastery over nature. This framework has been applied and validated in at least 66 societies on all inhabited continents (Dekker & Fischer, 2008). They found that in highly embedded (vs. autonomous) societies, performance approach goals were higher, reflecting Dweck’s (2001) hypothesis that an interdependent sense of self may orient one toward performance goals. In more egalitarian (vs. hierarchical) societies, individuals were more oriented toward mastery goals. Dekker and

Fischer (2008) made a connection between this result and Ryan and Deci's (2001) self-determination theory, which also suggests that contexts in which individuals are free to pursue their own goals may be conducive to mastery orientation. Together, these findings are interesting because embeddedness and egalitarianism both seem to facilitate positive achievement motivation, but one is focused on mastery and one is focused on performance. Notably, these two dimensions are typically inversely related to one another across societies (Dekker & Fischer, 2008; Schwartz, 1994). Performance avoidance goals, on the other hand, were not associated with societal values. Mean values for cultural factors (autonomy, egalitarianism, and harmony) and achievement goals for the countries that are relevant to the proposed study are reported in Table 2.

The majority of cross-cultural research in achievement goals draws on the trichotomous and multiple goals frameworks (Dekker & Fischer, 2008). Only one study in an Asian sample seems to have explicitly addressed normative and appearance goals to date. Bong et al. (2013) used confirmatory factor analyses to test whether items tapping approach-avoidance distinctions and normative-appearance distinctions yielded a good fit in a sample of Korean middle school students. Surprisingly, the approach and avoidance items correlated too highly to function as independent factors in this sample, as did the normative and appearance items. The classic distinction between mastery and performance yielded the best fit; responses by the sample of Korean middle school students seemed to indicate two distinct, psychologically salient factors. The authors found this result surprising and offered a few potential explanations: (a) perhaps the timing of the survey, which was given right after final exams, influenced the salience of certain goals and skewed the results; (b) this was a highly competitive school, and perceptions of their classrooms as highly performance-oriented may affect students' motivation; (c) Korean learning environments in general have been observed to be highly competitive, and grades are based on students' ranking compared to other students (Bong, 2003), which may cause conflation of normative and appearance performance goals; and (d) the possibility that this was not a culturally-specific finding and that performance goals may not warrant further distinction even in Western populations. Clearly, further study is needed in order to better assess the presence and function of the full range of performance goals in Korean and other learning contexts.

### **Stability of Achievement Goals across Domains and Development**

Achievement goals have been presented in the literature as individual propensities or orientations (Elliot, 2005) and as something highly susceptible to environmental influences (e.g., Elliott & Dweck, 1988; Grant & Dweck, 2001). Some researchers have made a case for increased attention to context and treatment of achievement goals as a situation-specific variable (see Elliot, 2005); however, conclusions remain unclear around the stability of achievement goals in different domains (Bong, 2001) or over time (Bong, 2009). Although the achievement goal framework is widely used in the study of motivation in sports, few studies address the prevalence and function of these goals across the academic and sporting domains. Duda and Nicholls (1992) found that goals in school and sports were related as hypothesized to students' beliefs about the causes of success in each domain and that these beliefs cut across domains. Mastery goals (or task orientation) were associated with intrinsic satisfaction in both domains. Moreover, achievement goals were more stable across domains than were perceived ability and enjoyment.

Noting a lack of existing research in this area, Bong (2001, 2005, 2009) has investigated differences in achievement goals across academic domains and over time in Korean students. In a sample of middle and high school students, Bong (2001) found that performance-approach and

performance-avoidance goals were highly correlated across academic subjects (Korean, English, Math, and Science), whereas mastery goals were more distinct. She also found that compared to middle school students, high school students' mastery goals were clearly differentiated between subjects and correlated strongly with task value. Another interesting age-related finding was that in middle school students, performance-avoidance goals were positively correlated with task value and self-efficacy, indicating that "as these students feel more efficacious and perceive greater task-value in the given subject, they not only put forth effort to improve their competence and document their superior ability but also try hard to avoid looking incapable" (pp. 32–33). This relationship did not hold true in high school students.

In her 2009 study of elementary and middle school students in Korea, Bong found again that endorsements of each type of goal were strongly correlated among younger students and that they became more differentiated as the age of the students increased. Bong's (2001, 2009) findings reflect Miller's (1984) description of developmental changes in ability perceptions and Holloway's (1988) caution about understanding the relationship between ability and effort in developmental and cultural context. Furthermore, the limited number of studies addressing domain specificity highlights a need for further investigation of how achievement goals present themselves not only within cultural contexts but also across different domains.

### **Achievement Goals, Culture, and Giftedness**

Ability is also an important part of the context in which students form goals. Dweck (2000) asserted that high ability students are often the most worried about failure, rather than displaying mastery-oriented characteristics. Senko et al. (2011) discussed the relationship between talent and normative performance goals, refuting suggestions by Dweck and Elliott (1983) and Nicholls (1984) that only the most talented students would pursue normative performance goals; rather, Senko et al. (2011) speculated that holding normative goals may create pressure to perform and arouse greater effort, which would be related to success.

However, ability is a culturally-situated construct (Dai, 2018; Holloway, 1988), and there is a lack of cross-cultural research in the context of giftedness and talent. Stoeger, Balestrini, and Ziegler (2018) reported finding only 10 articles between 1980 and 2015 using the search terms "gifted" and "cross-cultural." One common conception is that East Asian understandings of giftedness are less concerned with entity theories (fixed mindset) and more focused on interdependence, malleability, and effort; however, ideas of giftedness are heterogeneous within Asian regions (Chan, 2018). The countries included in this study are all considered to subscribe to a Confucian understanding of giftedness (Gupta, 2002, as cited in Chan, 2018), in which ability can turn into giftedness through effort.

Heterogeneity in cultural understandings of giftedness and talent may also be at play within the US. African American, Hispanic/Latino, and American Indian students are underrepresented in gifted and talented programs (Erwin & Worrell, 2012). In contrast, Asian American students tend to be overrepresented in gifted programs overall; however, further investigation indicates that East Asian and South Asian students are overrepresented in gifted populations but their Southeast Asian and Pacific Islander counterparts are underrepresented (Erwin & Worrell, 2012). Particularly in an ethnically diverse setting such as the US, ethnicity likely interacts with national culture to create a particular context in which students understand ability and form academic goals.

## The Present Study

Over the past 30 years, researchers in the US have moved toward increasingly nuanced understandings of achievement goals; however, achievement goals have not been measured with the same precision in cross-cultural and gifted populations. Furthermore, overrepresentation of Asian American students in U.S. gifted programs raises questions about the role of culture within the US and cross-culturally. Limited research in Korean samples (Bong, 2013) has shown a strong association between approach and avoidance goals and between normative and appearance goals. These findings have not been replicated, and achievement goals at this level of differentiation have not been investigated in samples from other Asian countries.

This study will add to the existing literature by examining four types of achievement goals in academically talented adolescents from the US, China, Taiwan, Singapore, and South Korea. This exploratory study uses existing data to determine whether there are differences in the prevalence of these goals across samples. The following research questions guide this analysis:

1. What is the prevalence of each type of achievement goals in each sample?
2. Does the distribution of achievement goals look similar across Asian and American national groups? How does the distribution of achievement goals in Asian groups compare to the distribution in the US, among Asian-American and non-Asian American students?
3. How do the distributions compare across groups in hypothesized correlates of academic achievement goals (intrinsic motivation, perceived competence, perceived challenge, and academic achievement)? Do these correlates vary by achievement goal?

Due to the extremely limited literature examining approach and avoidance dimensions and normative and appearance goals in international and gifted and talented populations, predictions were not made regarding the contribution these data may make toward answering the research questions. In particular, data from forced-choice measures of achievement goals (e.g., Dweck, 2000) were not available in the literature looking at achievement goals in international populations, and such measures may provide new information about the relationships between achievement goals in different cultural contexts. As discussed by Zusho and Clayton (2011), comparing mean differences in cross-cultural samples can be a valuable way to investigate whether achievement goal theory should be refined further to account for cultural differences.

## Method

### Participants

Participants in this study were students attending summer courses at a large U.S. research university. Six hundred and sixty were enrolled in courses offered primarily for U.S. students. Of these students, 317 (48.77%) were male, and they ranged in age from 11 to 17. Eighty nine (14.19%) were European American, 212 (45.45%) were Chinese American, 59 (9.41%) were East Indian or Pakistani American, 12 (1.91%) were Japanese American, 35 (5.58%) were Korean American, 6 (0.96%) were Pacific Islander, 11 (1.75%) were Filipino American, 33 (5.26%) were other Asian American, 13 (2.07%) were African American, 6 (.96%) were Chicano/Mexican American, 15 (2.39%) were other Hispanic American or Latinx, 10 (1.59%) were Middle Eastern or Arab American, 50 (7.97%) were Multi-Ethnic, and 3 (0.48%) were international students. Eleven (1.78%) reported belonging to a poor family, 22 (3.55%) working class, 45 (7.27%) lower middle class, 273 (44.10%) middle class, 228 (36.83%) upper middle class, 23 (3.72%) lower upper class, and 17 (2.75%) wealthy.



Thirty three participants were enrolled in classes for visiting students from China and Taiwan. Fifteen (45.45%) were male, and they ranged in age from 14 to 18. Fifteen (45.45%) reported being from Taiwan, and the rest reported being from China. Two (6%) reported belonging to a working class family, 11 (33.33%) middle class, 18 (54.45%) upper middle class, and one (3%) wealthy. One participant did not report family socioeconomic status. Chinese and Taiwanese students will be considered as a single group for data analysis due to limited sample size.

Twenty participants were enrolled in classes offered for visiting students from an all-female secondary school in Singapore. They ranged in age from 12 to 15. All students were residents of Singapore, and 14 (70%) reported being ethnically Chinese or Singaporean Chinese. Three (15%) reported belonging to a lower middle class family, 7 (35%) middle class, 7 (35%) upper middle class, and one (5%) lower upper class. Three participants did not report their family's socioeconomic status.

Twenty four participants were enrolled in classes offered for visiting students from an all-male secondary school for gifted students in South Korea. They ranged in age from 15 to 17. Twenty one (87.5%) reported being ethnically Korean, and the remaining 3 reported "other" or "Asian" in the field for ethnicity. Twelve (50%) reported belonging to a middle class family, 10 (41.67%) upper middle class, and two (8.33%) lower upper class.

## Measures

Self-report measures were used to collect data on participants' achievement goals, course enjoyment, perceived competence compared to others at school and in their summer courses, perceived level of challenge in their summer courses, and learning in their summer courses.

**Achievement goals.** Two measures of achievement goals were given (see Appendix for complete items). The Task-choice Goal Measure (Dweck, 2000) has students complete the statement, "In school, I would like to work on..." with one of four choices. Based on definitions by Hulleman et al. (2010) and Senko et al. (2011), I have classified these statements in the following way: (a) "Problems that aren't too hard, so I don't get many wrong" (*performance avoidance*) (b) "Problems that I'll learn a lot from, even if I won't look so smart" (*mastery approach*) (c) "Problems that are pretty easy, so I'll do well" (*performance approach normative*) and (d) "Problems that I'm pretty good at, so I can show I'm smart" (*performance approach appearance*).

An additional dichotomous measure of mastery or performance goals was also given. Students were asked, "In school, If I had to choose between getting a good grade in an easy course and being challenged in a difficult course, I would choose..." (a) "getting a higher grade in an easy course" (*performance*) or (b) "being challenged in a difficult course even if I got a higher grade" (*mastery*). These items were adapted from Dweck's (2000) Questionnaire Goal Choice Items. Although it is acknowledged in the literature that students can hold multiple goals simultaneously, these forced-choice measures will allow for assessment of students' task preferences, which has been found to be more closely associated with implicit theories of intelligence.

**Course enjoyment.** Enjoyment of the course material will be used as a proxy for intrinsic motivation (see Grant & Dweck, 2003, for a similar method of measuring intrinsic motivation). Students were asked, "How much did you enjoy taking this course?" Response choices were presented on a 5-point Likert scale: *Not at all*, *Very little*, *It was okay*, *Quite a bit*, or *A great deal*.

**Perceived competence.** Students were given a measure of perceived competence relative to their peers at school and in the summer classes in which they were enrolled. They were instructed, “Rate yourself in academic ability compared to students in your grade at your home school,” and “Rate yourself in academic ability compared with others in these classes. Response choices were presented on a 5-point Likert scale: *among poorest, below average, average, above average, among best.*

**Perceived challenge.** Students were asked, “How challenging was this course for you?” Response choices were presented on a 5-point Likert scale: *Not challenging, A little challenging, Somewhat challenging, Quite challenging, or Extremely challenging.*

**Self-reported learning.** Students were asked, “How much did you learn in this course?” Response choices were presented on a 5-point Likert scale: *Way below expected, Less than expected, As much as expected, More than expected, or Way beyond expected.*

## Procedure

All participants completed a survey at the end of their summer course(s). The survey included demographic questions, a course evaluation, and the measures described above. Participants in the U.S. program received the survey by e-mail via Survey Monkey during the final two weeks of classes. Participants in courses offered for students from China, Taiwan, South Korea, and Singapore completed the survey on paper in their classes during the final week of their programs. For surveys administered in hard copy, the instructor left the room while a summer program staff member supervised the students and collected the surveys. No identifying information was collected, and students were assured that their responses would be kept confidential.

## Results

### Prevalence of Achievement Goals

Students’ self-reported achievement goals in the different national samples are reported as frequencies and percentages in Table 3. The U.S. sample is additionally disaggregated by ethnicity to address potential questions about achievement goal differences in the cultural contexts of different ethnic groups in the US, especially considering the high proportion of ethnically Asian students in the U.S. sample.

In all samples and using both forced-choice measures of achievement goals, mastery goals were more prevalent than performance goals. Using the Task-choice Goal Measure, mastery goals were reported at the highest level among students from Singapore (80%), lowest among underrepresented minorities in the US (56%), and prevalence ranged from 59–71% in all other groups. Rates of reporting mastery goals in academics were higher using the Questionnaire Goal Choice measure. Students from Singapore again reported a mastery orientation at a rate of 80%; reports of mastery goals in academics rose in all other groups using this measure, most notably among underrepresented minorities in the US (83.3% mastery goals).

Among performance goals, results were mixed across groups. In the US, performance approach appearance and performance avoidance were more common than were performance approach normative goals, and this pattern held true in all ethnic groups in the US. This pattern also held true among students from China and Taiwan and from Singapore. In fact, no underrepresented minority students from the US or students from Singapore reported performance approach normative goals. The students from South Korea reported the highest rates of performance approach normative goals at 26.1%. Interestingly, the prevalence of performance approach normative goals was similar (within 2.2 percentage points) among East and South Asian Americans and students from China and Taiwan.

Across national samples, performance approach appearance goals were highest among students from China and Taiwan (21.2%). No students from South Korea chose this type of goal. Within the US, the prevalence of performance approach appearance goals seemed to vary by ethnic group, with the highest rate among underrepresented minorities (36.7%) and the lowest among South Asian (9.7%) and East Asian Americans (12.1%).

Performance avoidance goals were most prevalent among students from the US (15.5%) and from Singapore (15.0%) and lowest among students from China and Taiwan (6.1%). Among students from the US, East Asian American (18.4%) and South Asian American (17.7%) students were most likely to report performance avoidance goals in academics, and students from groups that are typically underrepresented in gifted populations (Southeast Asian or Pacific Islander, 9.4%; underrepresented minority, 6.7%) were least likely to report performance avoidance goals.

### **Group Differences in Achievement Goals**

Chi-square tests of association were conducted to determine the extent to which reported achievement goals were related to group membership (e.g., international sample or, within the U.S. sample, ethnicity). However, some group differences could not be examined statistically due to low cell counts, which violate the assumptions of the chi-square test.

**Achievement goals among international samples.** The first set of comparisons examined the association between achievement goals and sample among the international groups. When separated by all four response choices in the Task-choice Goal Measure, the data yielded cell counts too low to conduct a chi-square test. Instead, a bar graph displaying these comparisons is presented in Figure 1. Performance goal responses (i.e., “Problems that aren’t too hard, so I don’t get many wrong,” “Problems that are pretty easy, so I’ll do well,” and “Problems that I’m pretty good at, so I can show I’m smart”) were then combined to allow a comparison of mastery goal vs. non-mastery goal responses among the three international groups. The relation between the Task-choice Goal Measure (mastery vs non-mastery) and sample had a small effect size and was not statistically significant,  $\chi^2(2, N = 76) = 2.092$ , Cramer’s  $V = .166$ ,  $p = .351$ . However, the bar graphs presented in Figures 1 and 2 suggest that looking at all four response options may yield differences among the international groups in performance goals that are not captured by the statistical analysis. For example, no respondents from South Korea reported performance approach appearance goals and no respondents from Singapore reported performance approach normative goals.

Mastery and performance goals were also examined in the international samples using data from the Questionnaire Goal Choice measure. The relation between response to the Questionnaire Goal Choice measure and sample was not statistically or practically significant,  $\chi^2(2, N = 77) = .730$ , Cramer’s  $V = .097$ ,  $p = .694$ . Using the Questionnaire Goal Choice measure, sample membership was not related to achievement goals.

**Achievement goals among U.S. ethnic groups.** This set of comparisons examined the association between achievement goals and ethnicity within the US. As with the international groups, when separated by all four response choices in the Task-choice Goal Measure, the U.S. data yielded cell counts too low to conduct a chi-square test. See Figure 2 for a bar graph of these comparisons. Performance goal responses were again combined to allow a comparison of mastery goal vs. non-mastery goal responses among the six ethnic group codes. The relation between the Task-choice Goal Measure (mastery vs non-mastery) and ethnicity had no practical effect and was not statistically significant,  $\chi^2(5, N = 528) = 3.469$ , Cramer’s  $V = .081$ ,  $p = .628$ .

The statistics reported here indicate no significant or notable differences between groups when comparing rates of mastery responses and non-mastery responses using the Task-choice Goal Measure.

As was the case with the international groups, looking at graphs of participants' responses using all four response choices (see Table 3 and Figure 3) may provide additional insight. In all ethnic groups, mastery approach was the most commonly reported academic achievement goal, and performance approach normative was least commonly reported. More differences seemed to emerge in the rates of performance approach appearance goals (reported by 36.7% of underrepresented minority students in contrast with 9.7% of South Asian students), and performance avoidance goals (reported by 18.4% of East Asian students in contrast with 6.7% of underrepresented minority students).

Mastery and performance goals were also examined by ethnicity within the U.S. sample using response data from the Questionnaire Goal Choice measure. The relation between responses to the Questionnaire Goal Choice measure and ethnicity was not statistically or practically significant,  $\chi^2(5, N = 529) = 1.541$ , Cramer's  $V = .054$ ,  $p = .908$ . The biggest discrepancy in goals was between East Asian American students (87.9% mastery goals) and Southeast Asian or Pacific Islander American students (68.8% mastery goals).

### **Correlates of Achievement Goals by Sample and Goal Preference**

One-way ANOVAs were conducted to investigate differences by sample (China and Taiwan, South Korea, Singapore, and US) in five hypothesized correlates of achievement goals: perceived challenge, self-reported learning, course enjoyment, perceived competence in the summer class, and perceived competence at their home schools. Results are reported in Table 4. There was a statistically significant difference between groups in self-reported learning, course enjoyment, and perceived competence at school. Group differences in perceived competence at school had a medium effect ( $\eta^2 = .087$ ), meaning that 8.7% of the variance in perceived competence at school could be attributed to differences in national samples. Mean self-ratings of relative competence at school ranged from 3.38 (between "average" and "above average") in the South Korean sample to 4.28 (between "above average" and "among best") in the U.S. sample. Effect sizes for self-reported learning ( $\eta^2 = .014$ ), course enjoyment ( $\eta^2 = .039$ ) and perceived competence in their summer classes ( $\eta^2 = .010$ ) were small, and there was no notable effect of group membership on perceived challenge ( $\eta^2 = .008$ ).

Because achievement goals differed by ethnicity within the U.S. sample (see Table 3), one-way ANOVAs were conducted to detect differences in outcome variables by ethnicity within the U.S. sample. Results are reported in Table 5. Ethnicity explained a small amount of the variance in self-reported learning ( $\eta^2 = .020$ ), perceived competence in the summer course ( $\eta^2 = .020$ ), and perceived competence at school ( $\eta^2 = .035$ ) and no statistically discernable relationship perceived challenge or course enjoyment. Interestingly, perceived competence at school and in the summer course was highest among Caucasian Americans, and self-reported learning was highest among underrepresented minority students. Although differences across ethnic groups in perceived challenge and course enjoyment did not reach even a small effect size, patterns in these differences are informative. Perceived challenge was highest among the underrepresented minority and Southeast Asian American groups, which are both underrepresented in academically talented populations. Also, the relative uniformity among ethnic groups in course enjoyment is notable in light of more dramatic differences between

national samples. See Figures 5–9 for mean ratings on correlates of achievement goals for each international sample and U.S. ethnic group.

One-way ANOVAs were also conducted to investigate differences in the five correlates of achievement goals by achievement goal preference using the Task-choice Goal Measure. Results are reported in Table 5. Small effects of achievement goal preference were found on course enjoyment ( $\eta^2 = .019$ ), perceived competence in the summer course ( $\eta^2 = .021$ ), and perceived competence at school ( $\eta^2 = .012$ ). Mean self-ratings of course enjoyment ranged from 3.68 (between “it was okay” and “quite a bit”) among students with performance approach normative goals to 4.13 (between “quite a bit” and “a great deal”) among students with mastery approach goals. Self-ratings of perceived competence in the summer course were lowest among students with performance avoidance goals, and self-ratings of perceived competence at school were lowest among students with performance approach normative goals. Achievement goals did not meaningfully differentiate student responses regarding perceived challenge or self-reported learning. See Figures 10–14 for mean ratings on correlates of achievement goals by achievement goal preference.

### Discussion

This study explored achievement goals in samples of students from the US, China and Taiwan, Singapore, and South Korea. The first research question investigated the prevalence of each type of achievement goal (mastery and performance using the Questionnaire Goal Choice measure, and mastery approach, performance approach normative, performance approach appearance, and performance avoidance using the Task-choice Goal Measure) in each sample and among ethnic groups in the U.S. sample. Mastery goals were most prevalent in all national samples and all U.S. ethnic groups, using both measures of achievement goals. Performance approach normative goals were least common in most samples (US, China and Taiwan, and Singapore) and in all U.S. ethnic groups. Performance approach appearance goals were most reported by students from China and Taiwan and were not reported at all by students from South Korea. Performance avoidance goals were reported most by students in the US and least by students in China and Taiwan, although East Asian American students in the US reported performance avoidance goals at an even higher rate than did the U.S. sample overall.

The second research question investigated the extent to which reported achievement goals were related to group membership (e.g., international sample or, within the U.S. sample, ethnicity). The mastery vs performance breakdown differentiated between samples with a small effect size. Although disaggregated performance goals could not be examined statistically by sample due to low cell counts, the three types of performance goals did appear to be distributed differently across samples when presented visually in bar graphs. Performance approach appearance goals, for example, were largely absent in the samples from South Korea and Singapore.

The third research question investigated differences by sample and by goal preference using the Task-choice Goal Measure in five correlates of achievement goals: perceived challenge, self-reported learning, course enjoyment, perceived competence in the summer class, and perceived competence at their home schools. There was no notable difference by sample (across international groups), ethnicity (within the U.S.), or achievement goal preference (all participants) on perceived challenge. National sample and ethnicity accounted for a small amount of the variance in self-reported learning, with the highest mean ratings among students from Singapore and underrepresented minority students in the US. National sample accounted for a small amount of the variance in course enjoyment (highest among students from Singapore

and lowest among students from South Korea), and ethnicity and achievement goal preference did not. National sample, ethnicity, and achievement goal preference each accounted for a small amount of the variance in perceived competence in the summer course, and perceived competence in the students' home schools varied by national sample with a medium effect size. However, differences by sample in perceived competence at school are likely more pronounced because the samples from South Korea and Singapore each come from one school, and student responses may be heavily influenced by their individual school climate and culture.

Due to the dearth of research on achievement goals in cross-cultural and gifted populations and the limited size of these samples, these research questions were exploratory in nature. However, in light of some of the existing literature, these findings yielded some interesting observations and highlighted important areas for future research.

### **Measurement of Achievement Goals**

Two measures of achievement goals were given, and these findings have some interesting implications for measurement of achievement goal preferences across samples. Mastery goals were most prevalent in all samples and using both measures of achievement goals. The Task-choice Goal Measure gives three performance goal options and one mastery goal option, which Dweck (2000) described as a feature of this measure that may reduce the incidence of social desirability driving mastery goal selection. Dweck's (2000) claim is supported in this study by the fact that mastery goals were selected more frequently using the Questionnaire Goal Choice measure than the Task-choice Goal Measure in almost all cases.

In addition, although some of the samples in this study were too small to allow statistical tests for meaningful subsample comparisons using all four included achievement goal types, comparisons using only the mastery and performance distinction were enlightening. When two types of goals were considered, the data did not appear to be distributed differently by sample; however, looking at graphs of the distributions suggests that considering all three types of performance goals may illuminate differences not captured by a mastery vs. performance conceptualization. It appears that the Task-Choice Goal Measure or another measure that captures multiple types of performance goals is preferable for understanding differences in achievement goals across populations. Bong et al. (2013) did find that a two-factor model worked best in their sample of Korean students, but it is important to note that their study used a multiple goals assessment. In contrast, the present study used forced-choice measures to ascertain students' goal *preferences*, in keeping with Dweck's (2000) claim that goal preferences capture differences that multiple goals models may not.

### **Prevalence of Achievement Goals across Groups**

One aim of this study was to explore achievement goals and their correlates in samples of students from different countries. Results should be interpreted with caution due to small sample sizes and the fact that the samples from Singapore and South Korea were single-gender and made up of students who attended the same school. In the case of the South Korean sample, it is interesting to consider the absence of performance appearance goals in light of the fact that grades are often determined by student ranking in South Korean schools. In a system that determines performing well by ranking students, performance approach appearance goals may not be meaningful. This reflects the finding by Bong et al. (2013) that normative and appearance goals were highly correlated in a sample of Korean students and may inform conceptualizations of achievement goals in the context of the South Korean school system.

In the sample of students from Singapore, performance approach goals in general were scarce or absent. No performance approach normative goals were reported in this group. The sample from Singapore was the most mastery oriented of the samples, and most of the students from Singapore who did not choose mastery goals chose performance avoidance goals instead. This raises an interesting question about what the word “fail,” as used in the performance avoidance response, may have meant to these students. If learning is emphasized in these students’ school context and culture, for example, failure may mean failure to learn rather than failure to perform. Measures of mastery avoidance goals have had limited utility in U.S. samples and were not included in this study, but mastery avoidance may be more relevant in different cultural contexts.

Interestingly, performance approach normative goals were least common in three of the four national samples. This finding is surprising considering that these are all samples of high achieving students, and performance approach normative goals are hypothesized to be most consistently tied to achievement in the recent literature (Senko et al., 2011). Again, it may be that using a forced-choice measure to capture achievement goal preference highlights dynamics not captured by multiple goals measures. Further research is needed to determine whether one conceptualization is more useful than the other in terms of capturing universal or culturally-specific motivational processes.

### **Correlates of Achievement Goals by Sample and Goal Preference**

This study also investigated the extent to which correlates of achievement goals varied across samples from different countries. Students’ perceived competence compared to other students at their schools varied by country with a medium effect size. Students from South Korea rated themselves the lowest compared to others at their school, and students from the US rated themselves the highest. This finding highlights the potential impact of different school environments and cultural contexts, especially given the Korean school system in which students are ranked. There were also small effects of the different samples on self-reported learning, course enjoyment, and perceived competence compared to other students in the summer course. The most dramatic differences for self-reported learning and course enjoyment were between the samples from South Korea and Singapore. The students from Singapore reported learning more and enjoying their courses more, which is interesting because the students from Singapore also reported mastery goals at the highest rates. Again, differences between these two samples in particular need to be interpreted with particular caution because the sample from Singapore was all female, the sample from South Korea was all male, and both samples represent only a single school. Regarding course enjoyment, it is interesting to note that the groups from China and Taiwan and the US, each of which drew students from varied school environments within their respective countries, had similar ratings. In fact, the US also had fairly consistent reports of course enjoyment even among ethnic groups.

Consistent with the literature, course enjoyment was highest among students with mastery goals. Although achievement goals did not meaningfully differentiate student responses regarding perceived challenge or self-reported learning, patterns of responses in these areas were also consistent with the literature. Students reporting mastery approach goals reported learning the most and enjoying their classes the most; in contrast, students who reported normative performance goals reported the lowest levels of learning and enjoyment. This pattern reflects claims in the literature that mastery goals are associated with deep processing of information (A. J. Elliot, 1999) and interest (Hulleman et al., 2010), whereas normative performance goals are associated with surface learning strategies and anxiety (Grant & Dweck, 2003). These patterns

may warrant further investigation with a larger sample despite not yielding meaningful effect sizes in this particular study.

### **Ethnic Differences within the US**

A secondary purpose of this study was to examine ethnic differences in the US alongside international differences in order to better understand the potential relationship between achievement goals and culture. All participants included in the study were enrolled in summer courses for academically talented students, which had additional implications for the context in which their achievement goal preferences were operating. In particular, Asian American students are overrepresented in gifted and talented populations and made up over 70% of the U.S. sample. Over 53% of the sample were East Asian American, including Chinese, Korean, and Japanese Americans. East and South Asian Americans are overrepresented in gifted and talented programs in the US and are subject to the model minority stereotype, which raises questions about whether cultural socialization sets these students up for (or pushes them toward) academic success.

It is notable that on the Task-Choice Goal Measure, performance avoidance goals were reported most by East and South Asian Americans, who are overrepresented in gifted populations, and least reported in underrepresented minority students and Southeast Asian Americans and Pacific Islanders, who are underrepresented in gifted populations. Although failure-avoidance may be a part of a stereotype held in America about Asian students and Asian cultures, East and South Asian Americans reported performance avoidance goals at higher rates than any of the international Asian samples. Interestingly, performance avoidance goals are absent in the sample from Singapore, but the absence of performance avoidance goals in the Singapore sample does not have the same implications for representation as the absence of these same goals in Southeast Asian Americans and Pacific Islanders in the U.S. sample. Again, the meanings that the different types of goals carry and the relationships between the goals may differ by culture, the same way the relationship between ability and effort is different in the US versus Japan.

Performance approach appearance goals, in contrast to performance approach avoidance goals, were highest in underrepresented minority students and lowest in East and South Asian Americans. This is interesting especially in light of the idea of stereotype threat, in which underrepresented minority students, especially in a high-ability context, may be particularly aware of how they appear to others if they feel like they may be at risk of confirming a negative stereotype or if they feel as if they are acting as representatives of their ethnic groups. East and South Asian Americans, on the other hand, are well-represented in this population and would be less likely to perceive the same implications of their own appearance. This phenomenon also speaks to the assertion by Grant and Dweck (2001) that a social context that demands an interdependent sense of self may be especially powerful in determining students' goal choices and related behaviors.

Belonging to a certain ethnic category was found to have a small effect on self-reported learning and perceived competence both at school and in the summer course. Underrepresented minority students reported learning the most, compared to East and South Asian Americans who reported learning the least among the U.S. sample. This may be a function of the cultural and psychosocial context including things like motivation, and it may be a function of differences in opportunity to learn or supportive environments outside of the summer courses. U.S. students in general rated themselves as more competent relative to others at their home schools than in their summer courses, suggesting that there was a difference in the way these students perceived



themselves in context when placed with other high-ability students. This difference was not observed in any of the international samples, which is expected in the samples from Singapore and South Korea as those groups took the summer courses with others from their own schools, which are themselves selective schools serving academically talented students.

### **Implications**

This exploratory study makes a few contributions to the literature. Examinations of approach-avoidance and normative-appearance dimensions of achievement goals are scarce outside the US and had not been used to compare samples from different countries, as far as I could find. The use of a forced-choice measure may shed additional light on findings by Bong et al. (2013) about the utility of these dimensions in a Korean sample. In particular, it seems that collecting information on more than two types of goals, with attention to what those goals may mean in cultural context, is necessary for understanding how achievement goals differ in different populations.

This study also suggests that students' school environments (e.g., grading systems, racial and ethnic representation and stereotypes) may be important factors in how students form goals and in how they experience correlates of achievement goals (e.g., challenge, learning, enjoyment, competence). The grading system in South Korea and disproportionality in the US may be fruitful areas for future study to build a better understanding of how these goals and their correlates operate in context. High achievement in Asian Americans, and East Asian Americans in particular, is an area of interest for researchers seeking to understand factors that support achievement in the US; this study provides a preliminary comparison between East Asian Americans and multiple East Asian groups, which may help to tease out unique features of East Asian Americans' experience in school. However, further study is needed in order to determine the robustness, generalizability, and implications of the findings reported here.

### **Limitations and Future Directions**

A number of limitations were present in this study. First of all, the samples of students from China and Taiwan, Singapore, and South Korea were small ( $n < 35$ ). Secondly, data were collected using a one-time survey, which took place at the end of students' coursework (2 – 4 weeks) in the US. Given that achievement goals are influenced by the learning environment (Bong et al., 2013; Elliott & Dweck, 1988; Grant & Dweck, 2001; Holloway, 1988), it is difficult to say to what extent the visiting students' goals reflect cultural factors present at home compared to the US.

This was an exploratory study that used existing data, so the measures available were limited. Measurement of mastery goals is particularly susceptible to social desirability (Senko et al., 2011). For the primary measure of achievement goals used in this study, Dweck (2000) recommended setting the question up so that students actually believed that they would be given a task in accordance with their choice as a way of counteracting social desirability. However, that was not the case when these data were collected. Like much cross-cultural research (Zusho & Clayton, 2011), this is a simple survey-based study that focuses on differences between groups. Further research is needed to fully examine within-group variation and motivational processes. In particular, a larger sample would allow for examination of any potential interaction effects between national sample membership and achievement goal preference. Zusho and Clayton (2011) also suggested supplementing racial and ethnic categories with measures of acculturation and enculturation. This addition would allow the researcher to examine within-group differences and is highly recommended in future studies.

Finally, all measures were administered in English. All students surveyed were proficient in English and were completing coursework in English; however, it is still possible that students in the different groups interpreted certain English words and phrases (e.g., “easy” or “fail”) differently according to differing cultural meanings associated with those words. Although this study takes a universalist approach – assuming that universal psychological processes exist but may be heavily impacted by context and culture – future studies would benefit from heeding Zusho and Clayton’s (2011) recommendation that qualitative investigation of cultural differences in meaning be used before administering a Western instrument to participants who may belong to non-Western cultures.

This study lays the groundwork for a few specific follow-up questions. With a larger sample, it would be possible to look more systematically at whether the relationships between achievement goals and measured correlates are different in the different samples. Furthermore, a measure of academic achievement would add a great deal to future cross-cultural studies of achievement goals. Although mastery goals were most common in these samples and were associated with the highest levels of self-reported learning and enjoyment, the literature suggests that students choosing these goals may not be the highest achievers. In this population of high achieving students, mastery and performance approach normative goals are hypothesized to be associated with different aspects of engagement with a challenging environment. Senko et al. (2012) suggested that mastery oriented students and performance approach normative oriented students may value different teacher qualities in a challenging environment, so teacher evaluation data may also contribute to a fuller understanding of the processes by which goal preferences inform behavior. Finally, data related to theories of intelligence may also help put together a picture of how achievement goals operate in talented students across cultural contexts.

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Table 1

*Correlates of Mastery, Performance-Avoidance, Normative Performance-Approach, and Appearance Performance-Approach Goals*

Goal Type	Correlates	Reference	
Mastery	• need for achievement (ANT)	A. J. Elliot (1999)	
	• high competence expectancies (ANT)		
	• choice of challenging tasks		
	• adaptive attributional patterns		
	• deep processing of information		
	• task absorption		
	• creativity		
	• self-esteem		
	• help-seeking		
	• self-regulated learning		
	• long-term retention of information		
	• intrinsic motivation (controlling for and not controlling for perceived ability)		Grant & Dweck (2003)
	• persistence		Hulleman et al. (2010)
Performance-Avoidance	• interest	A. J. Elliot (1999)	
	• effort		
	• self-efficacy		
	• fear of failure (ANT)		
	• low competence expectancies (ANT)		
	• lower self-esteem		
	• threat construals		
	• low task absorption		
	• low self-determination while studying		
	• distraction while studying		
	• disorganized studying		
	• less self-regulated learning		
	• procrastination		
• unwillingness to seek help			
• shallow processing of information			
• poor performance and retention			
• anxiety prior to and during evaluation			
• reduced intrinsic motivation			
Performance-Approach (Normative)	• high effort	Senko et al. (2011)	
	• persistence		
	• achievement		
	• competence perceptions		
	• mild anxiety		
Performance-Approach (Appearance)	• surface learning strategies	Grant & Dweck (2003)	
	• perceived ability		
	• test anxiety		
Performance-Approach (Appearance)	• low effort	Senko et al. (2011)	
	• low self-efficacy		
	• low interest		

*Note.* ANT = antecedent

Table 2

*Cultural Factors and Achievement Goals in China, Taiwan, South Korea, and the United States*

Country	Mastery Goals			Performance Approach Goals			Performance Avoidance Goals			AUT	EG	HAR	HDI
	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>				
China	260	0.77	0.009	260	0.77	0.009	260	0.51	0.010	-0.01	0.75	-0.74	0.70
Taiwan	242	0.74	0.004	242	0.64	0.014	242	0.59	0.011	-0.01	1.53	-0.02	0.93
South Korea	1,167	0.69	0.004	1,167	0.71	0.005	778	0.53	0.006	0.11	1.82	-0.72	0.87
United States	24,292	0.74	0.001	26,135	0.61	0.001	16,321	0.54	0.002	0.35	2.12	-0.73	0.93

*Note.* AUT = autonomy (vs. embeddedness); EG = egalitarianism (vs. hierarchy); HAR = harmony (vs. mastery); HDI = Human Development Index. Adapted from “Cultural Differences in Academic Motivation Goals,” by S. Dekker and R. Fischer, 2008, *The Journal of Educational Research*, 102, p. 110.

Table 3

*Frequency of Reported Achievement Goals by Sample*

Sample	N	Task-choice Goal Measure								Questionnaire Goal Choice				
		Mastery Approach		Performance Approach Normative		Performance Approach Appearance		Performance Avoidance		Mastery		Performance		
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	N	Freq.	%	Freq.	%
United States	526	327	61.9	41	7.8	78	14.8	82	15.5	529	407	76.9	122	23.1
East Asian	282	167	59.2	29	10.3	34	12.1	52	18.4	283	214	75.6	69	24.4
South Asian	62	40	64.5	5	8.1	6	9.7	11	17.7	62	47	75.8	15	24.2
Southeast Asian or Pacific Islander	32	23	71.9	1	3.1	5	15.6	3	9.4	32	24	75.0	8	25.0
Caucasian	74	49	66.2	2	2.7	15	20.3	8	10.8	74	59	79.7	15	20.3
Underrepresented Minority	30	17	56.7	0	0.0	11	36.7	2	6.7	30	25	83.3	5	16.7
Other	48	31	64.6	4	8.3	7	14.6	6	12.5	48	38	79.2	10	20.8
China/Taiwan	33	21	63.6	3	9.1	7	21.2	2	6.1	33	23	69.7	10	30.3
Singapore	20	16	80.0	0	0.0	1	5.0	3	15.0	20	16	80.0	4	20.0
South Korea	23	14	60.9	6	26.1	0	0.0	3	13.0	24	17	70.8	7	29.2



Table 4

*Analysis of Variance in Correlates of Achievement Goals by Sample*

Correlate of Achievement Goals		Sum of Squares	df	Mean Square	F	Sig.
Perceived Challenge	Between Groups	3.683	3	1.228	1.562	.197
	Within Groups	480.018	611	.786		
	Total	483.701	614			
Self-Reported Learning	Between Groups	7.589	3	2.530	2.900	.034
	Within Groups	533.020	611	.872		
	Total	540.608	614			
Course Enjoyment	Between Groups	20.322	3	6.774	8.194	.000
	Within Groups	515.115	611	.827		
	Total	525.437	614			
Perceived Competence in Summer Course	Between Groups	4.648	3	1.549	2.043	.107
	Within Groups	460.373	607	.758		
	Total	465.021	610			
Perceived Competence at School	Between Groups	31.869	3	10.623	19.312	.000
	Within Groups	336.105	611	.550		
	Total	367.974	614			

Table 5

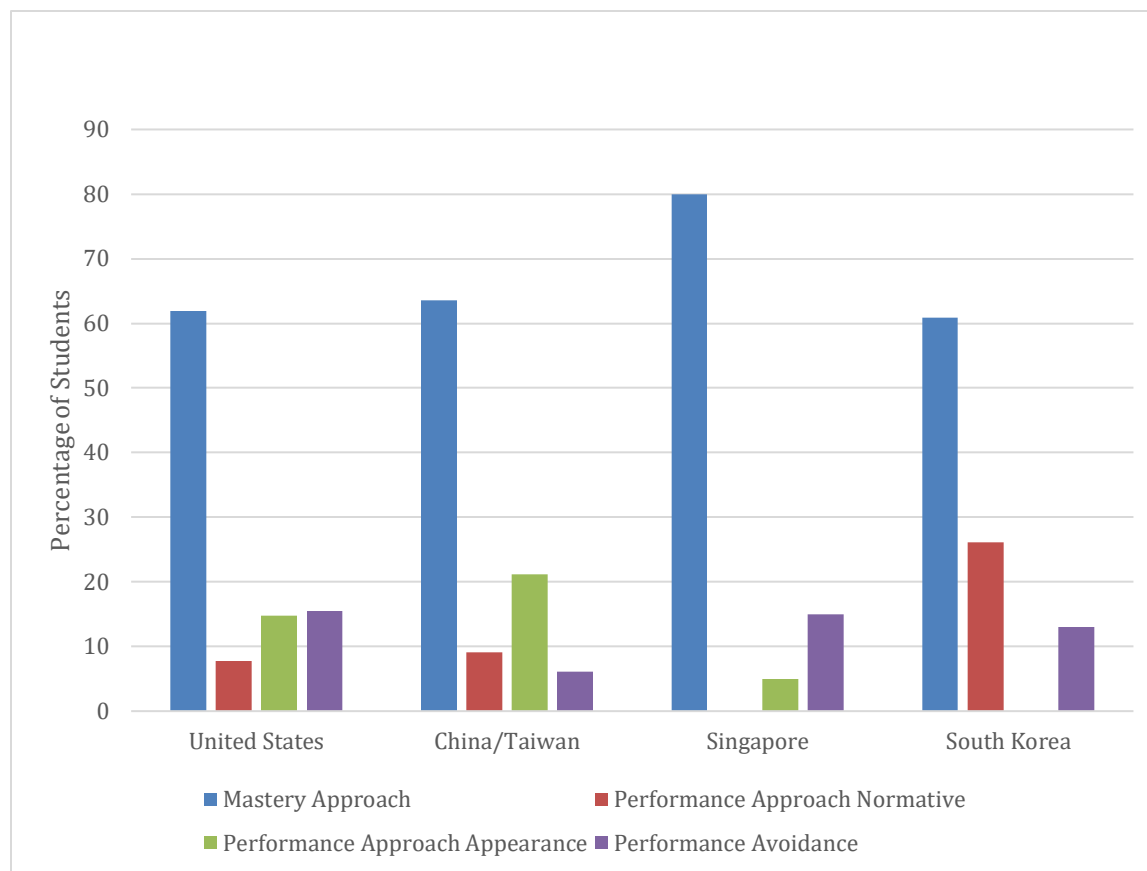
*Analysis of Variance in Correlates of Achievement Goals by Ethnic Group (U.S. Sample)*

Correlate of Achievement Goals		Sum of Squares	df	Mean Square	F	Sig.
Perceived Challenge	Between Groups	3.462	5	.728	.940	.455
	Within Groups	412.256	532	.775		
	Total	415.898	537			
Self-Reported Learning	Between Groups	9.634	5	1.927	2.256	.048
	Within Groups	454.373	532	.854		
	Total	464.007	537			
Course Enjoyment	Between Groups	1.893	5	.379	.449	.814
	Within Groups	448.124	532	.842		
	Total	450.017	537			
Perceived Competence in Summer Course	Between Groups	8.563	5	1.713	2.200	.053
	Within Groups	411.811	529	.778		
	Total	420.374	534			
Perceived Competence at School	Between Groups	9.916	5	1.983	3.910	.002
	Within Groups	269.818	532	.507		
	Total	279.734	537			

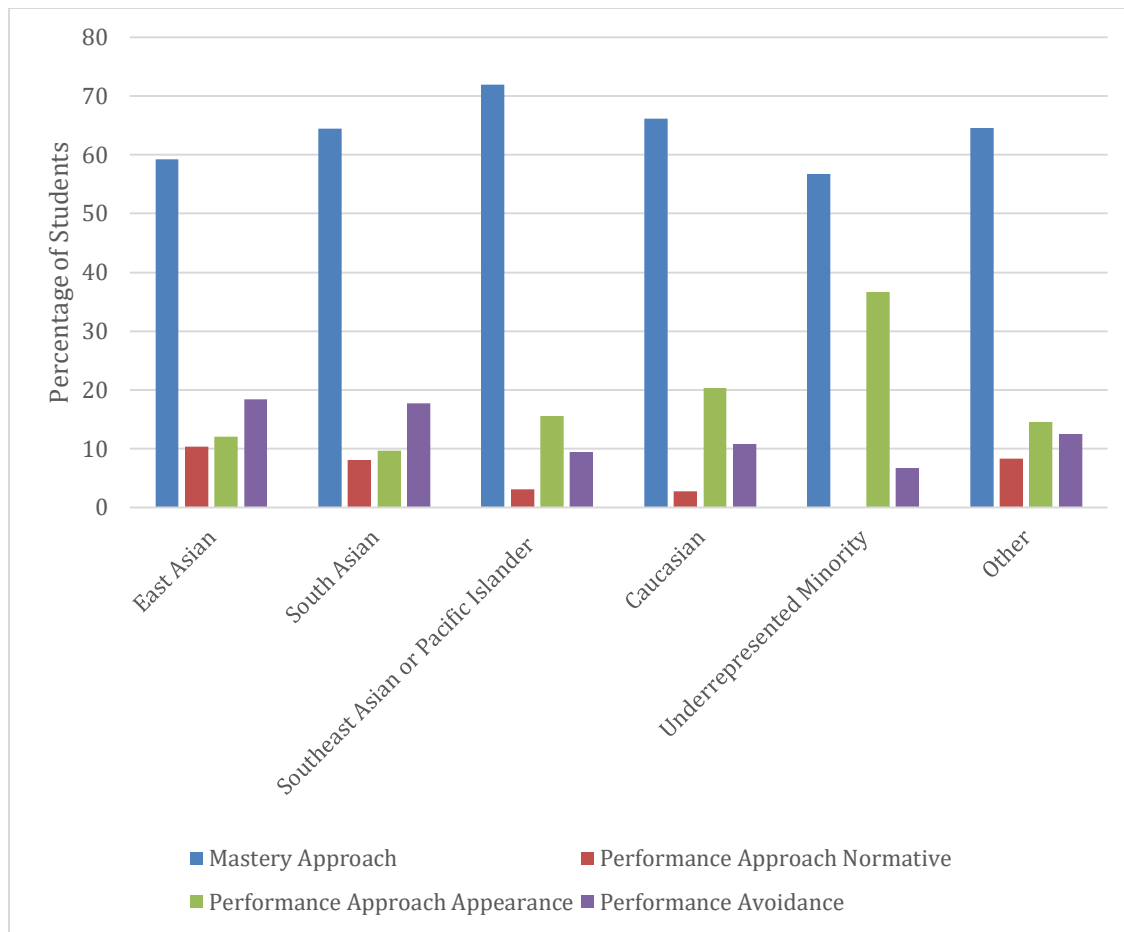
Table 6

*Analysis of Variance in Correlates of Achievement Goals by Achievement Goal*

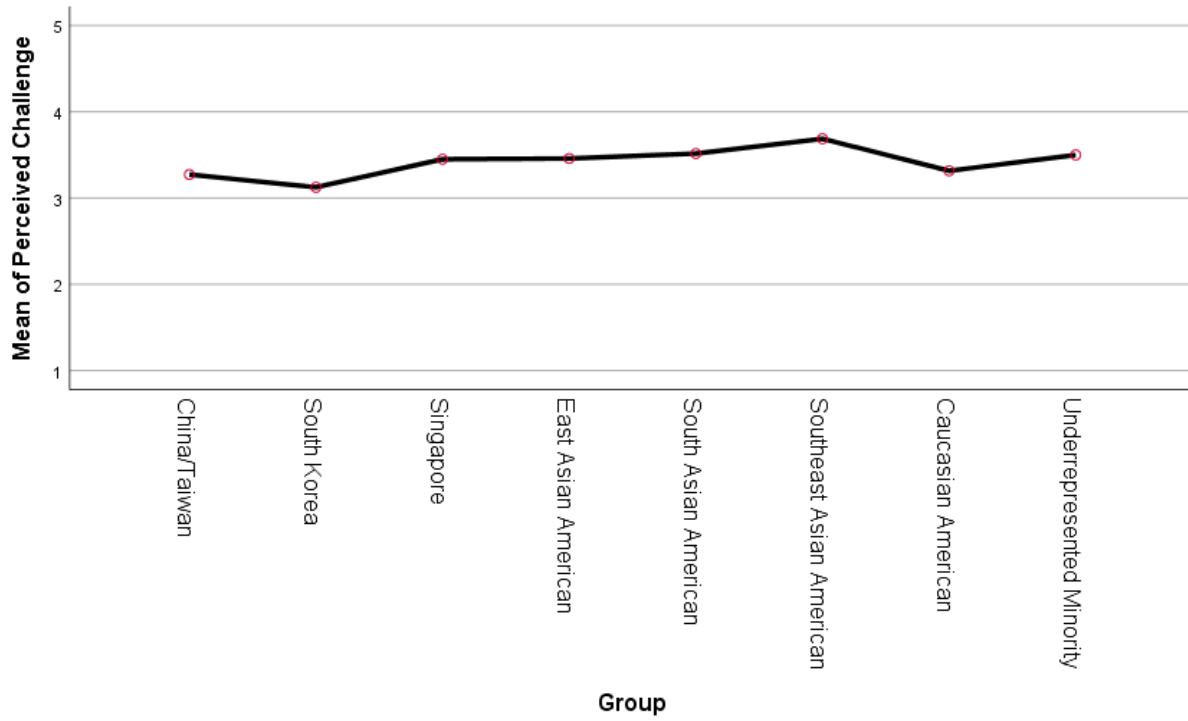
Correlate of Achievement Goals		Sum of Squares	df	Mean Square	F	Sig.
Perceived Challenge	Between Groups	2.971	3	.990	1.258	.288
	Within Groups	472.226	600	.787		
	Total	475.197	603			
Self-Reported Learning	Between Groups	2.974	3	.991	1.142	.331
	Within Groups	520.714	600	.868		
	Total	523.689	603			
Course Enjoyment	Between Groups	9.760	3	3.253	3.988	.008
	Within Groups	489.437	600	.816		
	Total	499.197	603			
Perceived Competence in Summer Course	Between Groups	9.846	3	3.282	4.362	.005
	Within Groups	458.448	596	.753		
	Total	458.293	599			
Perceived Competence at School	Between Groups	4.649	3	1.550	2.584	.052
	Within Groups	359.176	599	.600		
	Total	363.824	602			



*Figure 1.* Responses to Task-Choice Goal Measure by sample



*Figure 2.* Responses to Task-Choice Goal Measure by ethnic group within U.S. sample



*Figure 5.* Mean of perceived challenge ratings for each international sample and U.S. ethnic group

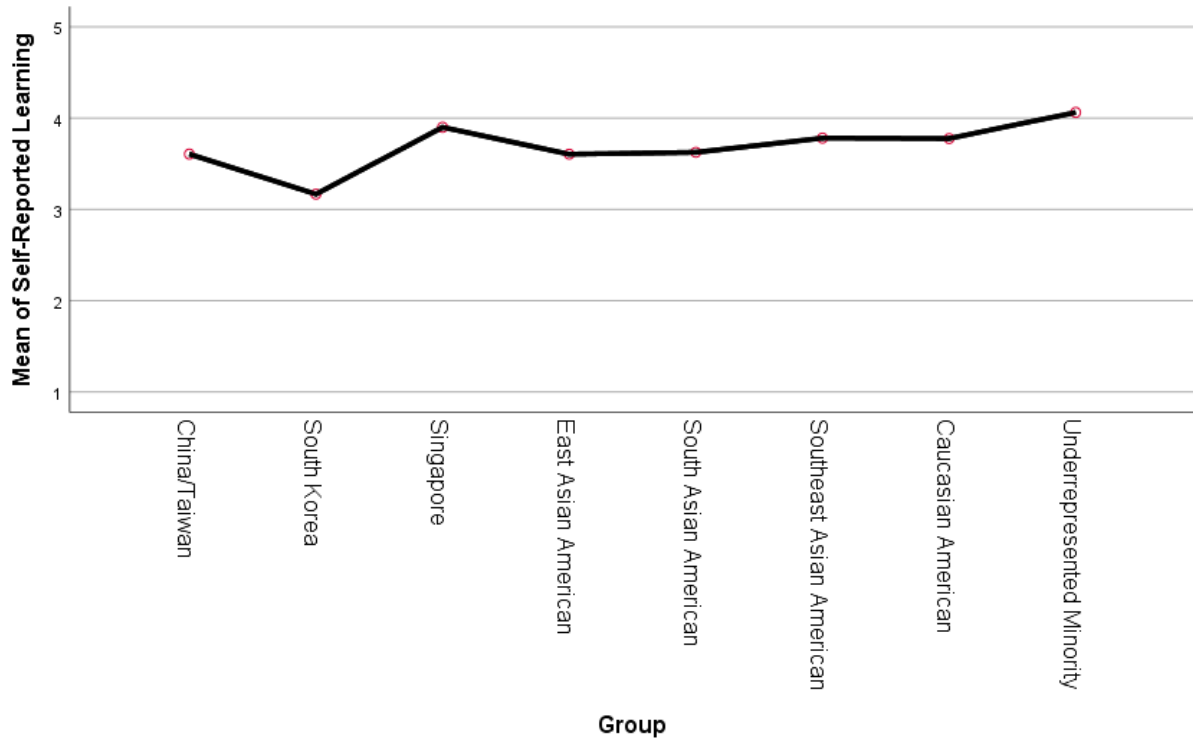


Figure 6. Mean of self-reported learning ratings for each international sample and U.S. ethnic group

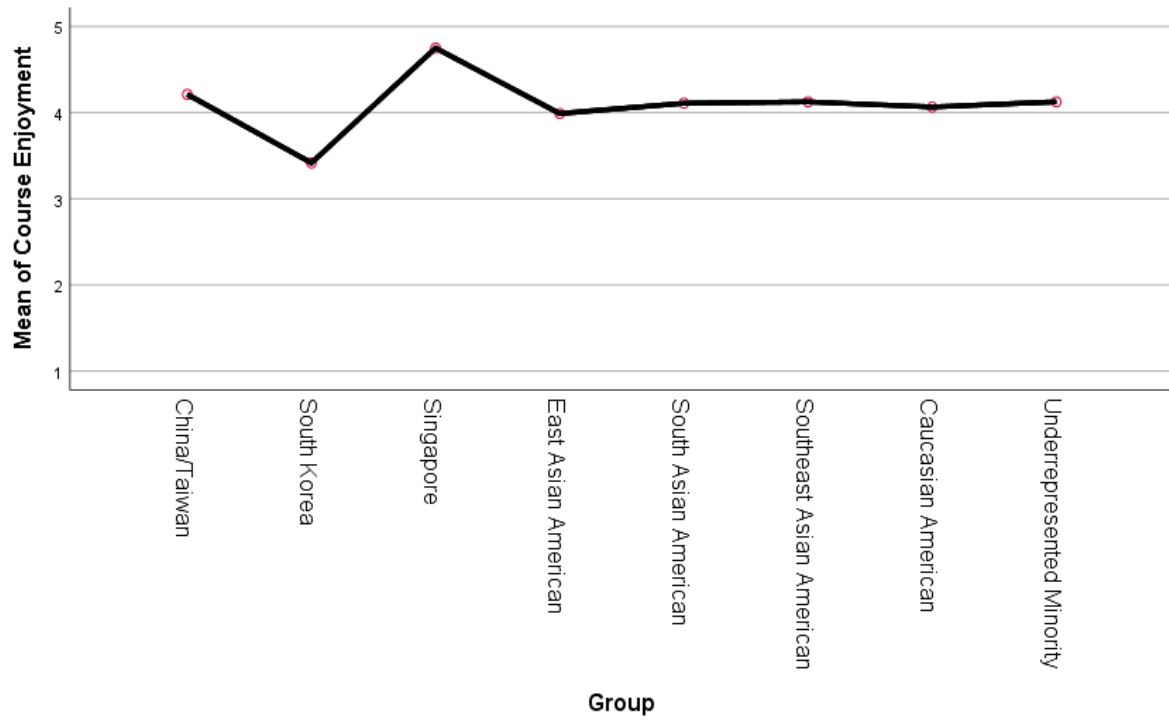
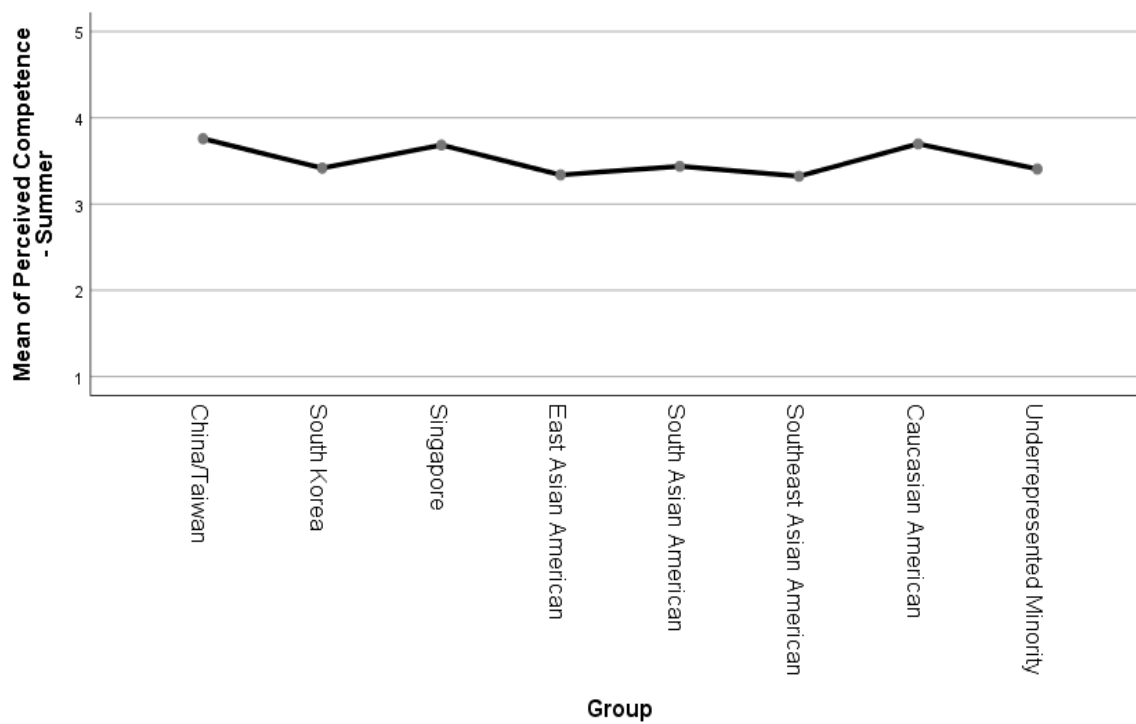
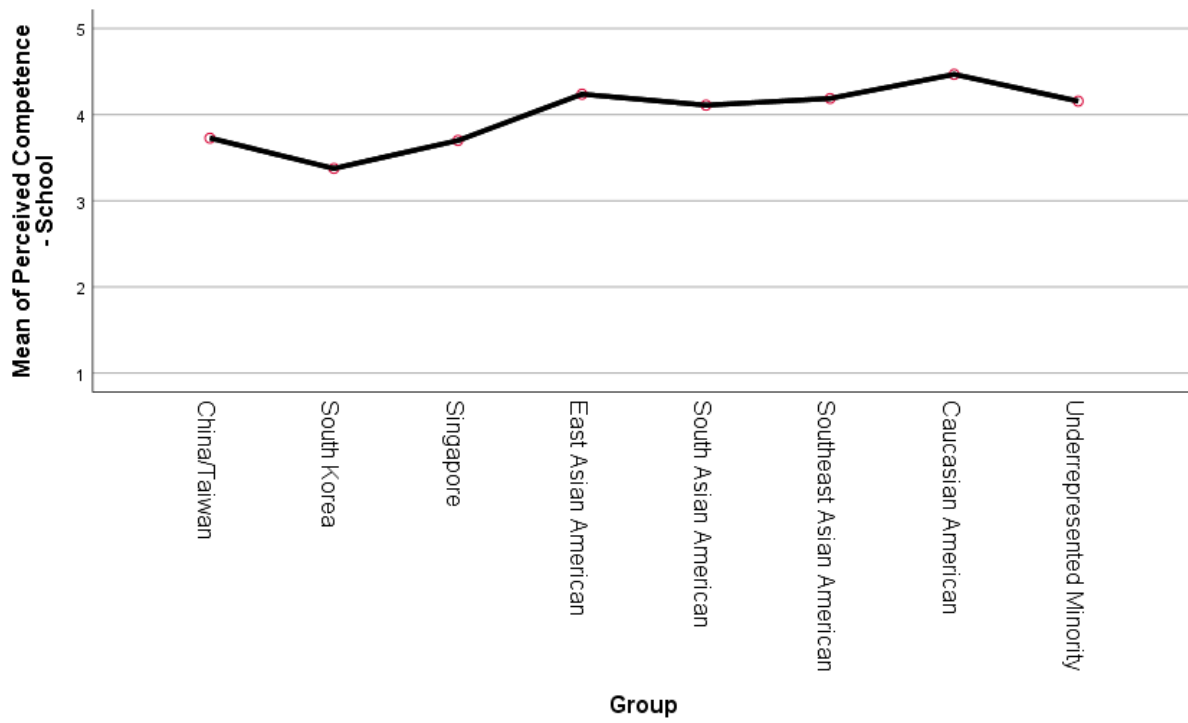


Figure 7. Mean of course enjoyment ratings for each international sample and U.S. ethnic group

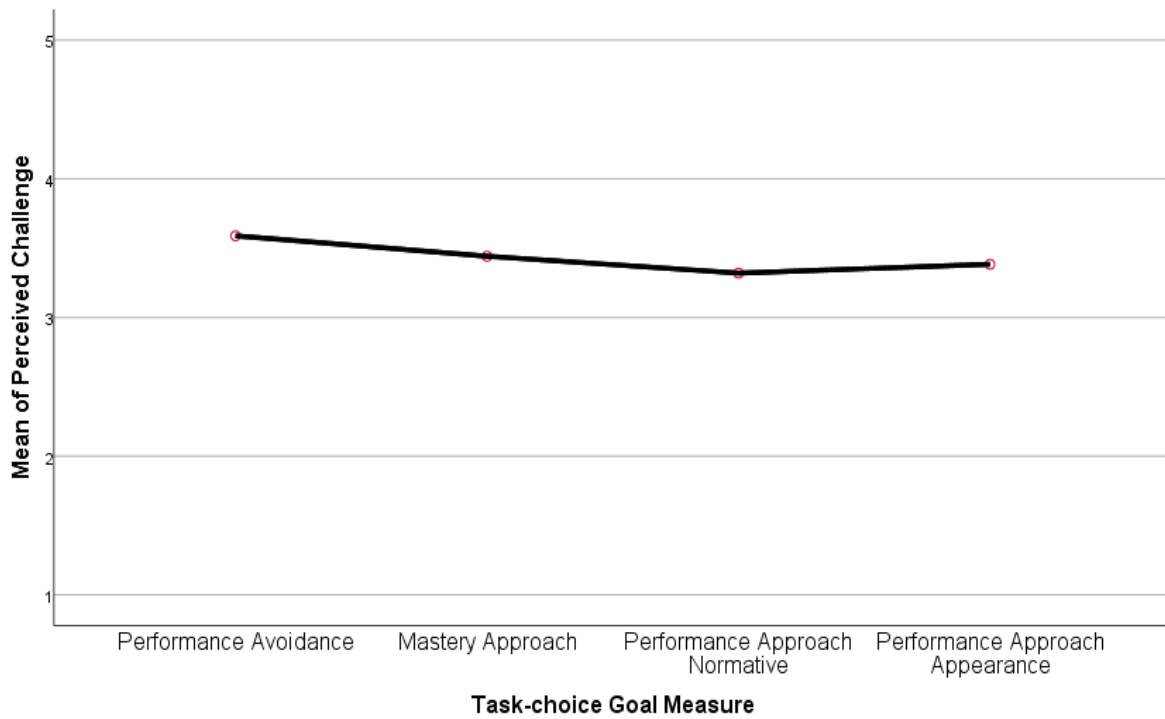




*Figure 8.* Mean of perceived competence in summer course ratings for each international sample and U.S. ethnic group



*Figure 9.* Mean of perceived competence at school ratings for each international sample and U.S. ethnic group



*Figure 10.* Mean of perceived challenge ratings by response on the Task-choice Goal Measure

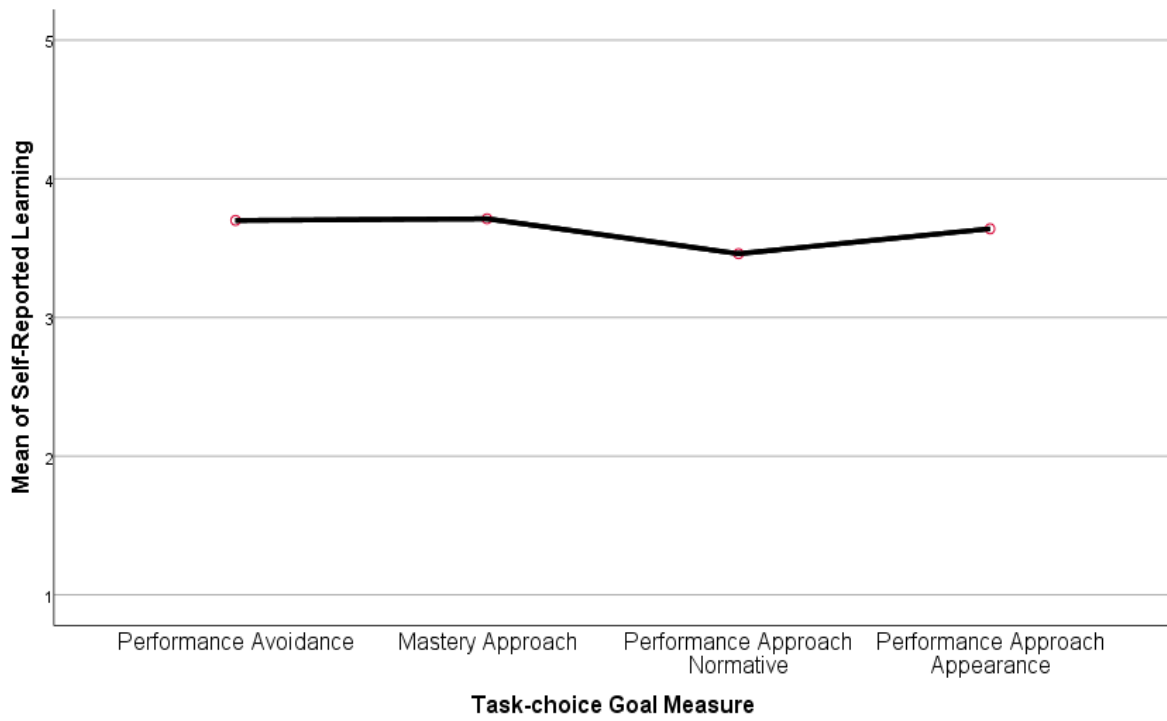


Figure 11. Mean of self-reported learning ratings by response on the Task-choice Goal Measure

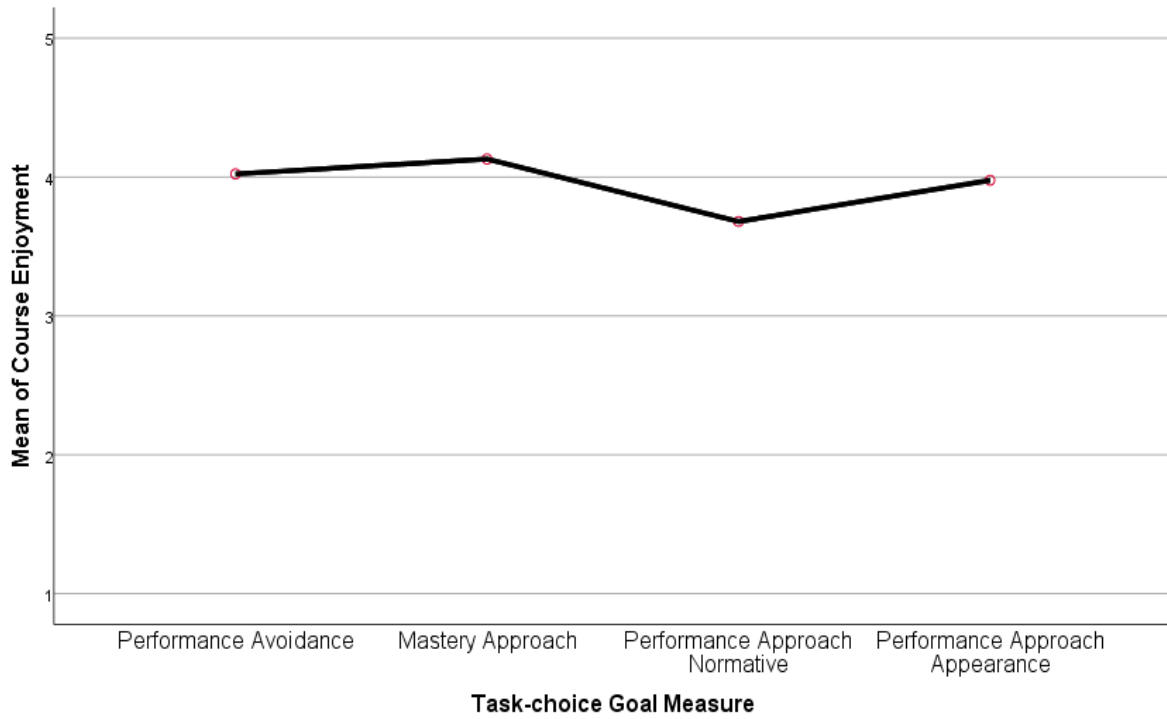
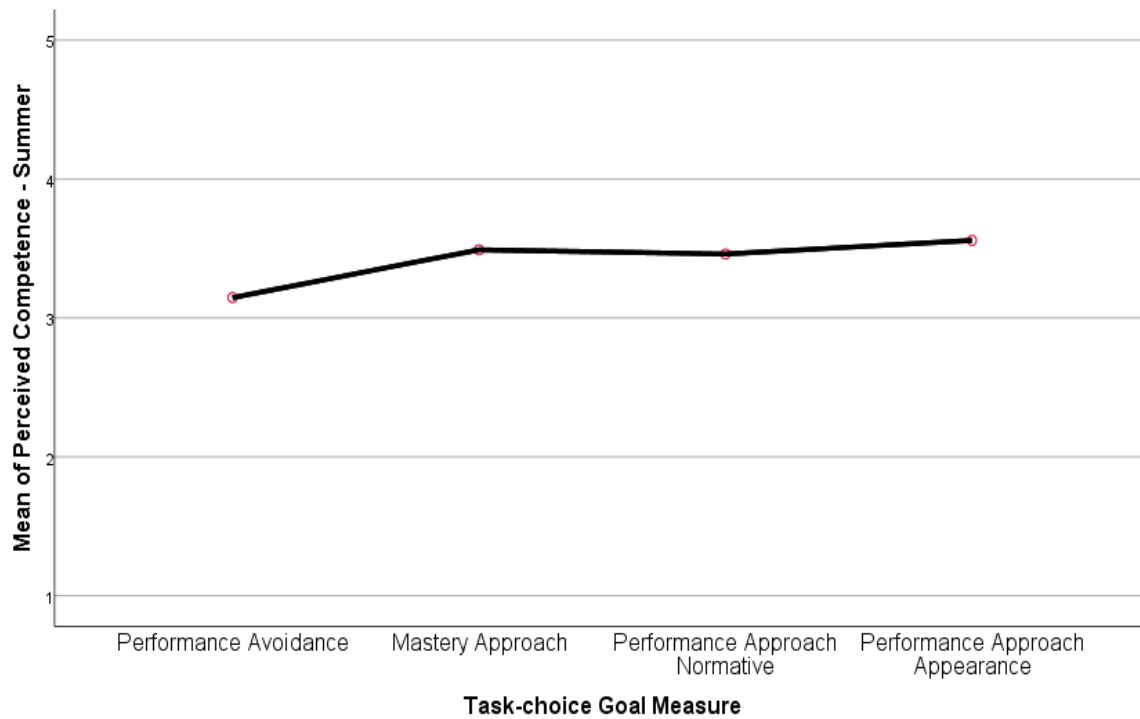
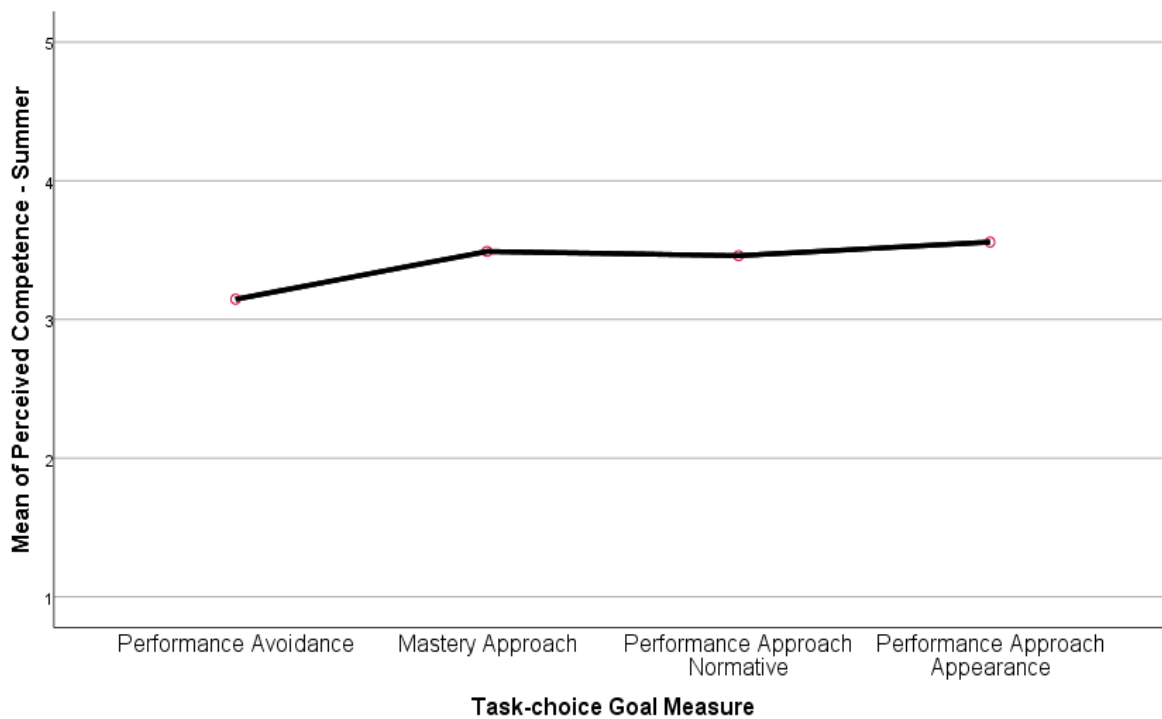


Figure 12. Mean of course enjoyment ratings by response on the Task-choice Goal Measure



*Figure 13.* Mean of perceived competence in summer course ratings by response on the Task-choice Goal Measure



*Figure 14.* Mean of perceived competence at school ratings by response on the Task-choice Goal Measure

## Appendix

### Achievement Goal Items

Choose one answer for each of the following questions that best describes how you think or feel.

In school, I prefer to work on:

- Assignments/projects/problems that are not too hard, so I do not get many wrong.
- Assignments/projects/problems that I'll learn a lot from, even if I won't look so smart.
- Assignments/projects/problems that are pretty easy, so I'll do well.
- Assignments/projects/problems that I am pretty good at, so I can show I am smart.

In school, if I had to choose between getting a good grade in an easy course and being challenged in a difficult course, I would choose:

- "Getting a higher grade in an easy course."
- "Being challenged in a difficult course even if I got a lower grade."