

Abstract

The role of mastery and performance goals in self-regulated learning (SRL) has received much attention. However, in collectivist and Confucian-heritage contexts, social-academic goals (i.e., social reasons for engaging in academic tasks) may also play an important, yet unexamined role in SRL. This study examined whether students' social-academic goals (parent-oriented goals and social status goals) were related to SRL strategy use (cognitive strategy use and self-regulation), and whether these relations were mediated by academic achievement goals. Participants were 11th-grade students from a developed metropolitan area ($n = 449$) and an underdeveloped rural area ($n = 553$) in China. Structural equation modeling showed that social status goals were strongly associated with mastery goals while parent-oriented goals were strongly associated with performance-avoidance goals in both groups. Students' parent-oriented goals had a direct effect on SRL strategy use, while social status goals had an indirect effect on SRL strategy use through academic achievement goals. Explanations for the effects of social-academic goals and implications for motivating students in collectivist contexts are discussed.

Keywords: social-academic goals, parent-oriented goals, social status goals, academic achievement goals, self-regulated learning

The Role of Social-Academic Goals in Chinese Students' Self-Regulated Learning

Self-Regulated Learning (SRL) refers to a proactive learning process that encompasses motivation, metacognition, and strategy use (Zimmerman 1990), and has attracted increasing attention due to its significance in predicting academic success (Pintrich and De Groot 1990). Briefly, self-regulated learners are those who are motivated to learn and use effective learning strategies. The roles of academic achievement goals (i.e., mastery and performance goals) in predicting SRL strategy use have received much attention (Pintrich 2000a, 2000b). A growing body of research has suggested that social-academic goals are quite prevalent and also play an important role in learning, especially for students in collectivist societies as well as Confucian-heritage cultures (e.g., East Asian countries) (Dowson and McInerney 2003; Tao and Hong 2014; Urdan and Maehr 1995). However, goal theorists have mostly focused on academic achievement goals and have largely neglected social-academic goals (King et al. 2012). Little attention has been devoted to understanding the relations between social-academic goals and academic achievement goals, and the processes through which social-academic goals influence students' SRL. Thus, this study seeks to address some of the shortcomings of mainstream motivation frameworks as well as contribute to a more comprehensive SRL framework by examining the relationship between social-academic goals and SRL strategy use.

The SRL literature has been predominantly Western focused (Pintrich 2000c; Schunk 2005), with research samples mainly coming from the so-called Western, Educated, Industrialized, Rich and Democratic (WEIRD) societies (Henrich et al. 2010). The present study was conducted in a cultural context where academic motivation might be different from the Western contexts that have been mostly studied. Additionally, while research has revealed that Western students also pursue social-academic goals, social-academic goals have been found to be particularly evident in collectivist societies as well as Confucian-heritage cultures

(e.g., East Asian countries) (Urdu and Maehr 1995; Yu and Yang 1987). The study therefore focused on Chinese students. Given China's cultural characteristics, two kinds of social-academic goals that have been shown to be especially salient in Chinese contexts were focused on – social status goals, and parent-oriented goals (Cheung and Pomerantz 2012; Li 2006).

Literature Review

Achievement Goal Theory

Academic achievement goals pertain to cognitive-dynamic aims that focus on competence, and that guide academic behaviors (Elliot 1999; Elliot and Murayama 2008; Elliot and Thrash 2001). Two primary goals are emphasized: mastery goals, which are also referred to as task goals and learning goals ;and performance goals, which are also referred to as ability goals and ego goals (Ames and Archer 1988; Dweck and Leggett 1988; Nicholls 1984). Students with mastery goals emphasize understanding the material, developing new skills, and improving competence, while students with performance goals are concerned with demonstrating competence and outperforming others.

This dichotomous framework was later extended to a 2×2 framework by incorporating an approach-avoidance distinction, resulting in mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals (Elliot 1999; Midgley et al. 2001; Senko et al. 2011). In the present study, mastery-avoidance goals were excluded because mastery-avoidance goals might be more applicable to the elderly and may also be less relevant for school-aged children (Ciani and Sheldon 2010; Lee and Bong 2016). Since the definition and effect of mastery-approach goals are the same as those of the previous mastery goals, we hereafter refer to them as mastery goals for the sake of simplicity. Previous studies have consistently reported an adaptive role of mastery goals in academic engagement, including interest, use of cognitive strategies, and self-regulation (Huang 2012;

Pintrich 2000c; Wigfield and Cambria 2010). Performance-approach goals focus on competence demonstration and outperforming others. Most studies have shown that performance-approach goals can be beneficial to students' academic achievement and performance (Barron and Harackiewicz 2001; Hulleman et al. 2010; Pintrich 2000b), whereas some studies have shown that performance-approach goals are associated with maladaptive outcomes (Huang 2012; Linnenbrink 2005). Performance-avoidance goals focus on avoiding judgments of low ability or appearing stupid, which have been mostly associated with maladaptive learning processes, such as high anxiety, cheating and low academic achievement (Huang 2012; Pintrich 2000c; Wigfield and Cambria 2010). Therefore, it is hypothesized that mastery goals and performance-approach goals are positively related to SRL strategy use, and that performance-avoidance goals are negatively related to SRL strategy use among Chinese students (Hypothesis1).

Social-Academic Goals

Social-academic goals pertain to perceived social purposes for academic achievement (Urduan and Maehr 1995). They represent students' aspirations to do well academically so as to fulfill social needs. Many types of social-academic goals have been proposed. This study specifically focuses on social status and parent-oriented goals because these two goals are especially salient in Chinese contexts (Cheung and Pomerantz 2012; Li 2006). Both goals will be discussed in turn.

Social status goals refer to striving to achieve academically to maintain or attain social position in present or future life (Dowson and McInerney 2004). Previous studies have indicated that striving to achieve upward social mobility by education is very common among Asians (Bernardo et al. 2008; King et al. 2012; Lee and Bong 2016; Li 2006). For example, Li (2006) examined Chinese adolescents' goals and found that most characterized education as a route to good jobs and financial stability. Likewise, King et al. (2012) and Lee and Bong

(2016) found that social status goals were the most highly endorsed social-academic goals among Filipino and Korean students respectively.

Many scholars have proposed that social status goals are deeply rooted in culture (Lau and Lee 2008; Li 2006; Tao and Hong 2014). According to Confucianism, the state orthodoxy of feudal China, education is a means of acquiring prestige and status (Lee 1996; Li 2006; Tweed and Lehman 2002). Confucius posited that an important goal of learning was to obtain a government job and perform adequately in a government career (Tweed and Lehman 2002). Confucianism was adopted as the core curriculum of official schools, and was the basis of the civil service examination in feudal China, which was the mechanism by which outstanding candidates were selected for secure jobs in the imperial government, laying the groundwork for China's long-standing pragmatic orientation toward learning (Lee 1996). Although the imperial civil service examination was abolished, the ideology of the imperial examination remains, and the pursuit of scholarly honor and official positions has been replaced by the pursuit of good degrees, high income, and prestigious careers (Li 2010).

Parent-oriented goals represent children's desire to do well in academic situations to gain parents' approval and meet parents' expectations (Cheung and Pomerantz 2012; Pomerantz et al. 2011). The literature on parental academic socialization has shown that some parents communicate the goals and meaning of learning, and discuss learning strategies with their children (Hill and Tyson 2009; Jeynes 2007; Wilder 2014). Children who pursue parent-oriented goals seek to meet their parents' expectations. Their learning behaviors and means of achieving success are influenced or even determined by their parents (Cheung and Pomerantz 2012; Pomerantz et al. 2011).

Evidence from many studies highlights the essential role of parents in children's motivation, particularly in China (Chen-Bouck et al. 2017; Nie and Liem 2013). Salili et al. (2001) found Hong Kong Chinese and Chinese Canadian students had stronger

family-oriented goals than European Canadian students. The pursuit of parent-oriented goals is embedded in Chinese culture. On the one hand, consistent with the collectivist nature of Chinese culture, children are more willing to take the opinions or needs of significant others into account to maintain good relationships than are children in more individualist societies (Markus and Kitayama 1991). Further, accordingly to Confucian filial piety, children have to conform to their parents' expectations as repaying their parents (Chow and Chu 2007; Ho 1994; Nie and Liem 2013). On the other hand, Chinese parents are noted for having high academic expectations of their children, and for taking an active approach to their children's learning (Chao and Tseng 2002; Cheung and Pomerantz 2011).

Social-Academic Goals and SRL Strategy Use

Social-academic goals focus on social purposes, while achievement goals concern competence-based objectives (Elliot and Thrash 2001). Both goal types concern reasons for academic achievement. Urdan and Maehr (1995) posited that social-academic goals, together with achievement goals, might influence students' learning. Recently, research has documented the direct influence of social-academic goals on students' behavioral, cognitive and emotional engagement together with achievement goals after controlling for the effects of achievement goals (King and McInerney 2016; King et al. 2012, 2013).

With respect to social status goals, European-American researchers have largely deemed intentions to elevate social status by education to be maladaptive (Anderman and Anderman 1999; Li 2006). According to the Western philosophical orientation, learning should be out of interest and be its own end, and viewing education as a means to an end is detrimental (Dewey 1916, 1938). However, there is a lack of studies that examine the impacts of social status goals among European-American students. Despite this assertion, the few studies on social status goals conducted among Asians have found them to be positively associated with deep learning strategies and cognitive engagement (King et al. 2014; King et

al. 2012). For instance, focusing on 1147 Filipino students, King et al. (2012) found social status goals positively predicted cognitive, emotional and behavioral engagement.

Studies on parent-oriented goals are also limited, but most found parent-oriented goals are positively related to academic engagement (Cheung and Pomerantz 2012; Miller et al. 1996; Pomerantz et al. 2011). Miller et al. (1996) found that pleasing parents and teachers positively predicted SRL strategy use and persistence. Two recent studies focused more directly on parent-oriented goals found that the more motivated both Chinese and American students were to please their parents, the more cognitive and metacognitive strategies they used (Cheung and Pomerantz 2012; Pomerantz et al. 2011). Parents play an important role in establishing norms and rules, and discussing learning strategies with their children (Hill and Tyson 2009; Pomerantz et al. 2007). Accordingly, to gain their parents' approval, children might conform to their parents' requirements regarding learning behaviors, such as getting work done on time and being self-regulated. Therefore, it is hypothesized that parent-oriented goals and social status goals, together with achievement goals, have a direct effect on SRL strategy use among Chinese students (Hypothesis 2).

In addition to examine the direct effect of social-academic goals on SRL strategy use, this study considers whether social-academic goals serve as antecedents to achievement goals, which in turn directly regulate achievement behaviors (Elliot 1999; Liem et al. 2012; Nie and Liem 2013). Although all goals concern purposes for academic engagement, social-academic goals and achievement goals are at a different level in the goal hierarchy (Elliot 2006; Lee and Bong 2016; Senko and Tropiano 2016). Achievement goals are defined as concrete competence representations of an end state students seek to obtain, separating from their underlying and more general reasons and needs (Elliot 2006; Elliot and Church 1997; Van Yperen 2003). Researchers have proposed that a student might pursue achievement goal for a variety of reasons, such as the need for achievement and fear of failure, the need for approval,

and the need for affiliation (Elliot 1999; Senko and Tropicano 2016; Sommet and Elliot 2017). In this sense, although named “goals,” the nature of social-academic goals is presumed to be similar to that of achievement motives, which are more general and superordinate dispositions that energize achievement goals, whereas achievement goals are more proximal predictors of achievement behaviors. Elliot and Thrash (2001) also stated, “The reason that is activated in the achievement setting prompts the adoption of achievement goals, which serve as the direct regulators of achievement behaviors” (p. 147).

Consistent with theoretical considerations, empirical evidence has also shown that achieving upward social mobility or gaining parents’ approval are important reasons behind students’ endorsement of achievement goals (Bernardo et al. 2008; Urdan and Mestas 2006; Author et al 2016). For example, Urdan and Mestas (2006) interviewed students to learn the reasons behind their pursuit of performance goals. Participants reported such social reasons as pleasing parents and maintaining and obtaining social status. A recent interview study among Chinese students also found their performance goals were driven by social-academic goals, such as obtaining higher social status or winning social approval (Author et al 2016).

Specifically, it is hypothesized that parent-oriented goals promote performance goals, which in turn influence SRL strategy use (Hypothesis 3). When students try to do well at school to meet their parents’ expectations and gain their parents’ approval, they are more likely to adopt the goal of demonstrating ability or avoiding demonstrating inability (King et al. 2012; Nie and Liem 2013; Tao and Hong 2014). Nie and Liem (2013) found that intentions to meet their parents’ and teachers’ expectations predicted both performance-approach and performance-avoidance goals among Chinese students. Similarly, two studies by Tao and Hong (2014), both focused on Chinese students, showed students’ intentions to gain parents’ and teachers’ approval predicted their adoption of performance-approach goals.

Social status goals might promote both performance goals and mastery goals, which in turn influence SRL strategy use (Hypothesis 4). On the one hand, many researchers have described the educational system in China as exam-oriented (Salili and Lai 2003; Watkins 2010). The chances of entering college increase if students gain better scores and a higher ranking in the college entrance exams than other students (i.e., performance goals) (Chen-Bouck et al. 2016). When entering the competitive job recruitment market, students' chances of gaining employment increase if they graduate from a prestigious university. On the other hand, students may realize the instrumentality of current tasks to their future career development, and so seek to develop their skills and improve their competence (i.e., mastery goals) to access the job market and secure a successful career (Lau and Lee 2008; J. Q. Lee et al. 2010). Some studies have shown that social status goals are positively related to mastery goals among Asian students (King et al. 2014; King et al. 2012). J. Q. Lee et al. (2010) found that Singaporean students' career oriented goals (i.e., the importance of having a good job or career in the future) were more strongly related to mastery goals than to performance goals.

Overview of This Study

Parent-oriented goals and social status goals are commonly endorsed, and have important implications for Chinese students' learning. However, there is a dearth of research on the direct and indirect ways in which social-academic goals may influence SRL (King and McInerney 2016; King et al. 2012, 2013). Informed by the hierarchical model of achievement motivation, social-academic goals were posited as antecedents of achievement goals, which in turn influence the use of SRL strategies (Elliot and Thrash 2001). The present study examines the following hypotheses among Chinese students (see Fig.1):

H1: a) Mastery goals are positively related to SRL strategy use; b) Performance-approach goals are positively related to SRL strategy use; and, c) Performance-avoidance goals are negatively related to SRL strategy use.

H2: Social-academic goals (social status goals and parent-oriented goals) are positively related to SRL strategy use.

H3: Parent-oriented goals promote performance goals, which, in turn, influence SRL strategy use.

H4: a) Social-status goals promote performance goals, which, in turn, influence SRL strategy use; and, b) Social-status goals promote mastery goals, which, in turn, influence SRL strategy use.

The third and fourth hypotheses are, in part, exploratory, given the absence of previous studies characterizing social-academic goals as the antecedents of academic achievement goals. Most of the limited studies on Chinese students' motivation have been conducted in developed urban areas. However, about 50% of China's population resides in rural areas (National Bureau of Statistics of China, 2016), and the large disparities that exist between city and rural living conditions may influence students' academic motivation (Li 2006). Thus, this study also considered students in underdeveloped rural areas.

Methods

Participants

Two groups of students participated in the study. The first group comprised 553 students (including 215 girls) from a public high school in an underdeveloped rural area in Jiangxi Province. Eight classes were randomly chosen from 35. There were approximately 70 students in each class. The second group consisted of 449 students (including 251 girls) enrolled in a public high school in a developed metropolitan area in Shanghai Municipality. Thirteen classes were randomly chosen from 24. There were approximately 35 students in each class. All the students were in 11th-grade (age range: 15-17 years).

Measures

Parent-oriented goals were assessed with 12 items adapted from the Parent-Oriented

Motivation Scale developed by Cheung and Pomerantz (2012). Items on the scale reflect purposeful commitments that guide learning (e.g., “I try to do well because I want my parents’ approval”). *Social status goals* were assessed with six items adapted from Dowson and McInerney (2004)’s Goal Orientation and Learning Strategies Survey (GOALS-S). These items assess students’ purpose to obtain or maintain social status at present or in the future (e.g., “I try to do well at school so that I can get a good job when I leave school”).

Academic achievement goals were assessed with 14 items adapted from the Patterns of Adaptive Learning Scales (PALS) (Midgley et al. 2000). Specifically, the five items on mastery goals assess students’ willingness to develop their competence and skills (e.g., “It’s important to me that I improve my skills this year”). The five items on performance-approach goals assess students’ intention to demonstrate their competence and to outperform others (e.g., “It’s important to me that I look smart compared to others in my class”). The four items on performance-avoidance goals assess students’ intentions to avoid demonstrating incompetence (e.g., “It’s important to me that I don’t look stupid in class”).

SRL strategy use was assessed with 22 items adopted from the Chinese version of the Motivated Strategies for Learning Questionnaire (MSLQ) (J. C. Lee et al. 2010; Pintrich and De Groot 1990; Rao and Sachs 1999). Two types of SRL strategies were assessed: cognitive strategies and self-regulation. Thirteen items on cognitive learning strategies assess the use of rehearsal, elaboration and organizational strategies (e.g., “When I study the readings for this course, I outline the material to help me organize my thoughts”). Another nine items on self-regulation assess the use of metacognitive strategies and effort management strategies (e.g., “Even when study materials are dull and uninteresting, I keep working until I finish”). Previous studies have confirmed the reliability and validity of the scales in examining SRL strategy use in the Chinese setting, using exploratory and confirmatory factor analyses (J. C. Lee et al. 2010; Rao and Sachs 1999).

Procedure

All the items were scored on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire was delivered in Chinese. Prior scholars have translated the scales for parent-oriented goals and SRL strategies into Chinese (Cheung and Pomerantz 2012; J. C. Lee et al. 2010; Rao and Sachs 1999). For the other scales, a back translation was conducted to ensure the equivalence between the Chinese items and the original English items. The final version of the questionnaire was first sent to one teacher at each chosen school to ensure that the wording and content were appropriate. In 2016, the first author administered the questionnaire in class, requiring participants to complete the questionnaire in around 15 minutes.

Data Analysis

Three sets of analyses were conducted. First, exploratory factor analysis was conducted to examine the factorial structure and measurement properties of motivational scales. Second, descriptive analysis and correlation analysis were conducted. Third, structural equation modeling (SEM) was conducted, using maximum likelihood estimation in AMOS (Byrne 2001). SEM is useful in assessing hypothesized structural relations, particularly those involving mediation. Cases with missing data were dealt with by regression imputation. The impact of goals on cognitive learning strategy use and self-regulation were tested. Finally, multi-group analysis was conducted to examine whether the model varied across areas.

Parcels of items were used as manifest variables in SEM, due to the relatively small sample size with regard to the numbers of variables and items (Bandalos 1997; Little et al. 2002). For each construct, parcels were used as indicators. Each parcel was the mean value of two or three items. Multiple fit indices were used to evaluate the fit of the model (Rigdon, 1995). To examine absolute fit, the chi-square test statistic, goodness of fit index (GFI), and root mean square error of approximation (RMSEA) were applied. The fit models usually have

a low-square value relative to degrees of freedom, that is, they have a nonsignificant χ^2 . However, a fit model may report a significant χ^2 because χ^2 is sensitive to sample size (Rigdon, 1995). Thus, special paid attention was paid to RMSEA, because it is relatively insensitive to sample size. To examine incremental fit, the Tucker–Lewis index (TLI) and comparative fit index (CFI) were applied. TLI, CFI, and GFI values from .90 to 1.00 indicate acceptable fit, and values from .95 to 1.00 indicate excellent fit. RMSEA values from 0 to .05 indicate an excellent fit, while values from .05 to .08 indicate an adequate fit.

Results

Factor Analysis

First, exploratory factor analysis using principal component analysis was conducted to determine whether the instruments of five goals are loading on separate factors. The measure of Kaiser-Meyer-Olkin (KMO) index was .80 (> recommend minimum value of .60), while Bartlett's test of sphericity was significant ($p < .001$). This five-factor solution explained 50.06% variance of the data. The 12 parent-oriented goals items, five mastery goals items, and six social status goals items all loaded on their own factors. Out of the five performance-avoidance goals items, four of them loaded on one factor together with one performance-approach goals item. Out of the five performance-approach goals items, four of them loaded on one factor together with one performance-avoidance goals item. All loadings were greater than .55. Although the results were not perfect, it still suggested that the five types of goals were distinct factors.

Descriptive Statistics and Correlation Analyses

Table 1 presents the descriptive statistics, Cronbach's alpha reliabilities, and correlations among the variables. The internal consistency of the five goals and two SRL scales were acceptable in both areas. Correlations for the urban sample and the rural sample are presented below the diagonal and above the diagonal, respectively. The relationships

between social-academic goals and the various outcomes examined were generally similar for the two samples. Parent-oriented goals were mostly associated with performance-avoidance goals, followed by performance-approach goals, and lastly mastery goals. Social status goals were more strongly associated with mastery goals than performance goals. Additionally, there was a positive albeit modest correlation between social-academic goals and SRL strategy use in both areas. Finally, t-test was conducted to explore the area and gender differences in the levels of social-academic goals and academic achievement goals. No differences were found, except that the Jiangxi sample reported higher incidence of parent-oriented goals than Shanghai sample, $t(1002) = -5.215, p < .001$.

Structural Equation Modeling

Path analysis on SRL strategy use. SEM was conducted to test the direct and indirect effects of social-academic goals on SRL strategy use (i.e., cognitive strategy use and self-regulation) (see Fig. 2). Gender and area (underdeveloped rural versus urban metropolitan) were included as covariates. The model reported a significant probability value: $\chi^2(328 N = 1002) = 1374.63, p < .001$. Nevertheless, the model fit was considered reasonable, based on other indices: RMSEA = .056, 95% CI [.053, .060], GFI = .92, CFI = .92, TLI = .91. The data supported 11 out of 15 of the hypothesized paths.

Concerning the effects of social-academic goals on achievement goals, social status goals significantly predicted mastery goals ($\gamma = .52, p < .001$), performance-approach goals ($\gamma = .21, p < .001$), and performance-avoidance goals ($\gamma = .16, p < .001$). Parent-oriented goals significantly predicted performance-avoidance goals ($\gamma = .45, p < .001$) and performance-approach goals ($\gamma = .39, p < .001$). Regarding the direct effects of these goals on SRL strategy use, mastery goals positively predicted cognitive strategy use ($\beta = .45, p < .001$) and self-regulation ($\beta = .39, p < .001$). Parent-oriented goals also positively predicted cognitive strategy use ($\beta = .20, p < .001$) and self-regulation ($\beta = .17, p < .001$).

Performance-approach goals ($\beta = .32, p < .05$) and performance-avoidance goals ($\beta = -.33, p < .01$) only predicted self-regulation. However, the direct effect of social status goals on cognitive strategy use and self-regulation were not significant. One control variable (area) was a significant influence ($\beta = -.19, p < .001$), indicating that students in Shanghai reported more cognitive strategy use than did students in Jiangxi.

The model explained 29.3% of the variance in pursuing performance-avoidance goals, 26.8% of the variance in pursuing performance-approach goals, and 26.6% of the variance in pursuing mastery goals. It also explained 27.6% of the variance in cognitive strategy use, and 23.8% of the variance in self-regulation. The standardized direct, indirect, and total effects of the goals on cognitive strategy use and self-regulation are shown in Table 2. A bootstrapped analysis was conducted to determine significance levels. Mastery goals were the most powerful predictors of cognitive strategy use and self-regulation among all goal orientations. Parent-oriented goals also had positive direct effect on cognitive strategy use and self-regulation. Notably, although the direct effect of social status goals was not significant, the indirect effect mediated by mastery goals accounted for the major effect of social status goals on cognitive strategy use and self-regulation.

Multigroup SEM. Multi-group analysis was conducted to compare the students from the two areas to test whether these models were invariant across two areas. The freely estimated model (factor loadings are freely estimated across groups) demonstrated an acceptable fit with the data: $\chi^2 (630, N = 1002) = 1534.723, \chi^2/df = 2.436, p < .001, RMSEA = .038, 95\% CI [.035, .040], GFI = .90, CFI = .93, TLI = .92$. Next, the fit of a structural weights model (constrain path weights to be equal) was compared to the freely estimated model. The statistically insignificant difference ($\Delta\chi^2 (15, N = 1002) = 21.758, p = .114$) between the hypothesized structural weights model and the unconstrained model indicated that the path weights were equal between these two groups. Overall, multi-group SEM

showed the hypothesized model was supported by data from both the Shanghai and Jiangxi samples.

Discussion

This study investigated the relationships between social-academic goals, academic achievement goals, and SRL strategy use among 11th-grade Chinese students. More specifically, hierarchical models were tested, in which students' social status goals and parent-oriented goals were related to SRL strategy use, mediated by academic achievement goals. This study extends our understanding of the relationship between motivational variables and SRL by examining academic achievement goals as well as social-academic goals.

Endorsement of Social-Academic Goals

Our findings show that participants held both academic achievement goals and social-academic goals. Social status goals were highly endorsed by the participants. Previous studies have revealed that Chinese students generally characterize education as a way to attain upward social mobility (Lee 1996; Li 2006; Tweed and Lehman 2002). Although parent-oriented goals were not endorsed more highly than mastery goals and social status goals, students endorsed parent-oriented goals more strongly than performance goals. The endorsement of both social status goals and parent-oriented goals is consistent with findings of previous studies that both types of goals are commonly endorsed among Chinese students (Cheung and Pomerantz 2012; Li 2006). Future researchers need to pay more attention to these two social-academic goals.

Notably, students in rural area of Jiangxi reported more parent-oriented goals than did students in urban area of Shanghai. This regional difference is not surprising. Shanghai's higher levels of economic development and Western cultural assimilation may breed a stronger desire for autonomy among students (Hamamura 2012; Inglehart and Baker 2000),

whereas the students in less developed, more traditional Jiangxi are more likely to endorse more traditional filial values, and to seek to meet their parents' expectations (Chow and Chu 2007; Ho 1994; Nie and Liem 2013). However, regional differences in pursuing social status goals were not found, indicating that no differences in striving to pursue career development and to ensure economic success by education.

Academic Achievement Goals and SRL Strategy Use

In line with achievement goal theory, this study demonstrated that mastery goals were the most salient and adaptive predictors of SRL strategy use (both cognitive strategy use and self-regulation) among Chinese students (Huang 2012; Wigfield and Cambria 2010). As for performance goals, although the effect on cognitive strategy use was not significant, the positive effect of performance-approach goals on self-regulation was in line with previous studies that acknowledged the adaptive role of approach goals (Hulleman et al. 2010; Wigfield et al. 2015). Previous studies have shown that performance-approach goals are mostly favorable among Chinese students (Chen and Wong 2015a, 2015b; Salili and Lai 2003). Furthermore, this study revealed that performance-avoidance goals were negatively related to self-regulation, which are aligned with literature that has consistently stressed the negative role of performance-avoidance goals (Huang 2012; Murayama et al. 2011).

Social-Academic Goals' as Antecedents of Achievement Goals

This study is one of the few empirical studies to examine whether social-academic goals are related to achievement goals. Noteworthy findings are that parent-oriented goals promoted performance goals, and social status goals promoted both mastery goals and performance goals. Our research is in line with research on the "whys" behind achievement goals that has only recently commenced (Senko and Tropiano 2016; Sommet and Elliot 2017). Social reasons for doing well at school provide the primary impetus for behaviors, but not specific directions on how students can accomplish their desires and needs. Students who are

energized by social-academic goals adopt more concrete achievement goals, such as outperforming others or developing competence, based on their interpretation of doing well (Senko and Tropiano 2016). These competence-represented aims, in turn, are the proximal predictors of achievement behaviors and outcomes (Sommet and Elliot 2017; Urdan and Mestas 2006). This hierarchical pattern enhances the predictive utility of social-academic goals, especially their energizing function in instigating specific academic achievement goals, and call for future research to clarify the relationship between these goals (Elliot 2006; Elliot and Thrash 2001).

Parent-oriented goals and performance goals. The positive relationship between parent-oriented goals and performance goals echoes previous findings that students who sought approval from others through academic achievement were likely to pursue performance goals (Nie and Liem 2013; Tao and Hong 2014; Author et al 2016, 2017). Previous studies have generally combined social approval goals with performance goals; even early measures of performance goals assessed the intentions to outperform others, demonstrate ability, and gain social approval together (Meece et al. 1988; Nicholls et al. 1985). Many theorists have stated that striving to gain parents' approval might lead to performance-approach and performance-avoidance goals, because students need to display high performance and avoid demonstrating lack of ability to their parents (Nie and Liem 2013; Tao and Hong 2014; Urdan and Maehr 1995).

A very possible explanation for the positive relationship between parent-oriented goals and performance goals is that students perceived their parents' expectations as performance-oriented. Researchers have posited that parental goal emphases have a strong influence on their children's development of achievement goals (Gonida et al. 2009; Kim and Chung 2012). Through academic socialization, parents highlighted their expectations and transmitted their beliefs about task values and their understanding of academic success (either

performance or mastering) (Hill and Tyson 2009). Children with parent-oriented goals are very likely to develop specific achievement goals based on the standard their parents use to evaluate their competence (e.g., intrapersonal or normative criteria), to gain their parents' approval so as to gain their parents' approval (Nie and Liem 2013; Tao and Hong 2014; Urdan and Maehr 1995). Chinese parents and teachers are known for highlighting the consequences of displaying high or low performance in college entrance examinations (Chao 1996; Zhu et al. 2008). Author et al (2016) also found that, when Chinese parents communicated their expectations, they usually highlighted performance goals by making peer comparisons and emphasizing the importance of a university diploma. If parents highlight comparisons, children may be especially motivated to live up to their parents' expectations by focusing more on outperforming others, demonstrating their ability, and avoiding demonstrating low ability.

Another possible explanation is that students view their parents' expectations as controlled extrinsic motivation (e.g., to obtain rewards and to avoid punishments) (Cheung and Pomerantz 2012; Grolnick and Slowiaczek 1994). Previous studies have shown that, when parents' expectations are perceived as controlled, children are more likely to develop extrinsic motivations that focus on the learning outcome. In contrast, when parents support children in making their own decisions, children are more likely to develop intrinsic motivation that focus on learning process and developing new skills (Cheung and Pomerantz 2012; Kim and Chung 2012). Cheung and Pomerantz (2012) found that parent-oriented goals were largely experienced as extrinsic and controlled motivation rather than autonomous motivation, among students from both the United States and China. In this sense, students may be concerned about obtaining rewards and avoiding punishment from parents and develop performance-avoidance and performance-approach goals. Nevertheless, the result indicates the need to further examine whether the positive influences of parent-oriented goals

on performance goals are due to controlling parenting styles, parents' emphasis on performance goals, or both.

Social status goals and academic achievement goals. As predicted, social status goals were positively related to performance goals, in line with findings of previous studies that demonstrated a positive relationship between these two goals among Asian students (King et al. 2014; King et al. 2012). Notably, China has a very competitive education system. Only a small percentage (approximately 26% in 2014) of high school graduates enter regular higher education institutions, and scores and rankings on college entrance examination are the major determinants of college admission (Ministry of Education of the People's Republic of China 2014). Therefore, Chinese high school students may seek to outperform others or demonstrate competence (i.e., performance goals) in the high-stakes examination, to get a university diploma and secure decent employment and financial stability

Another interesting finding was that social status goals were strongly related to mastery goals. That is, those Chinese students who sought to elevate their SES by education were very likely to adopt the goal of improving their competence and skills, which in turn led to greater use of SRL strategies. It seems more plausible that social status goals would be linked to performance goals, especially in a competitive context (Linnenbrink 2005). However, this positive and strong relationship between social status goals and mastery goals was not surprising, and adds to a handful of studies that have shown an adaptive pattern of social status goals among Asian students (Bernardo et al. 2008; King et al. 2012). Students may identify the value of education in personal growth and changing fate, which becomes a powerful inner drive motivating their learning (Deci and Ryan 2000; Wigfield and Cambria 2010). Due to the cultural roots of feudal China's civil service examination, Chinese students are very likely to perceive education as a means of moving up the social ladder and realizing their dreams (Lau and Lee 2008; Li 2006; Tao and Hong 2014). Furthermore, the world has

entered a knowledge-based era, and the need for lifelong learning is increasingly driven by continuous changes in technology and society (Hong et al. 2010). In this context, students may realize that merely entering college and getting a degree is far from enough to cope with future changes, so they may focus more on developing competence and skills.

Social-Academic Goals' Direct Influence on SRL Strategy Use

The results showed that parent-oriented goals directly promoted cognitive strategy use and self-regulation. Some previous studies have also demonstrated that striving to please parents is associated with higher levels of academic engagement (Bernardo 2008; Cheng and Lam 2013; King et al. 2012). The literature on parental academic socialization has shown that some parents discuss learning strategies with their children, help them develop cognitive and metacognitive skills, and expect them to employ certain learning strategies and show responsible learning behaviors (Hill and Tyson 2009; Jeynes 2007; Wilder 2014). For example, Chao (1996) showed that immigrant Chinese-American mothers were highly involved in their children's learning, and trained them to develop good study habits so they could eventually work well on their own. Correspondingly, it is reasonable that students who hope to gain their parents' approval and meet their parents' expectations will exhibit the learning behaviors expected by their parents.

With respect to social status goals, our study showed that the direct effect of social status goals on SRL strategy use was not significant. Although social status goals did have significant positive relationships with cognitive strategy use and self-regulation in correlation analysis, these relations were no longer significant when the effects of all types of goals on SRL strategy use were assessed simultaneously. While previous studies have demonstrated that social-status goals predict SRL strategy use (King et al. 2014; King et al. 2012), the results of the present study indicate this may be fully mediated by academic achievement goals.

Academic Motivation in a Collectivist and Confucian Culture

This study also holds important applied implications for optimizing student adaptive motivation, particularly in collectivist and Confucian-heritage societies. First, consistent with previous studies, the findings indicate the positive role of social status goals among Chinese students (King et al. 2012). Thus, it might be constructive to encourage the pursuit of upward social mobility. At the same time, teachers and parents should be sensitive about encouraging their children to achieve upward social mobility by developing new skills and improving their competence, instead of demonstrating high competence. For example, learning a foreign language or mathematics is very helpful in finding work, which can lift individuals out of poverty. Once students have identified the utility value of current tasks in building a future career, they become more likely to exert effort and use effective learning strategies (Deci and Ryan 2000; Wigfield and Cambria 2010).

Second, this study also highlights the double-edged nature of parent-oriented goals in SRL. Although parent-oriented goals were positively associated with SRL strategy use, they also promoted performance-avoidance goals which are commonly associated with deleterious effects, such as surface learning, increased test anxiety, self-handicapping, and cheating (Huang 2012). Therefore, family education programs are needed to offer guidance and interventions on parenting. Parents are advised to focus on their children's skill improvement and competence development instead of comparing their children's performance to that of others, and discuss effective learning strategies with their children.

Limitations and Future Work

The study has several limitations. First, our measure of performance goals focused on both competence demonstration and normative comparison because most scholars have agreed that performance-approach goals involve both features, and that there are social-academic goals underlying students' striving to display competence and outperform

others (Grant and Dweck 2003; Nicholls 1984). However, researchers disagreed on the competence demonstration feature of performance-approach goals (Hackel et al. 2016; Senko et al. 2011). For example, some researchers stated that demonstrating competence reflected a concern with the social consequences of being competent, which was a self-presentational motive, but was not itself part of the achievement goal (Elliot 1999; Elliot and Church 1997; Elliot and Thrash 2001). Hence, future research may measure performance goals by focusing on normative comparison and excluding competence demonstration, and examine whether there are different findings.

Second, the data were correlational and cross-sectional, and depicted the role of social-academic goals in predicting SRL strategy use. Although our confidence in the hypothesized directional effect is justified by the literature, the cross-sectional design prevents us from making causal claims. Future studies may adopt longitudinal or experimental designs to examine causal effect.

Third, this study merely relied on one data source—students' self-reports. It did not relate students' social-academic goals to their school recorded academic achievement. According to the findings of this study, students' mastery goals and social-academic goals may be positively related to academic performance, and performance-avoidance goals may play a negative role. Future studies are suggested to examine the role of goals in academic achievement. Also, we relied on questionnaire data. More data sources (e.g., qualitative interviews, objective school records) are needed in future research to investigate students' social-academic goals in depth.

Finally, a worthwhile direction for further research would be to conduct a comparative study with samples from both a collectivistic and Western background. For example, is the relation between parent-oriented goals and performance-avoidance goals stronger in collectivistic cultures compared to WEIRD cultures?

Conclusion

Overall, this study has provided direct empirical evidence that parent-oriented goals and social status goals play adaptive roles in SRL, together with mastery goals. It found that mastery goals were significantly related to cognitive strategy use and self-regulation, but performance goals were only significantly related to self-regulation. Second, parent-oriented goals were associated with performance goals, while social status goals were associated with both mastery goals and performance goals. Third, parent-oriented goals had a direct influence on cognitive strategy use and self-regulation. Social status goals had an indirect influence on cognitive strategy use and self-regulation, mediated by mastery goals. These findings offer insights into the relationships between social-academic goals and academic achievement goals, and students' SRL strategy use, and hold important applied implications for optimizing students' adaptive motivation in collectivist and Confucian-heritage societies.

References

- Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*, 260-267.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 24*, 21-37.
- Bandalos, D. L. (1997). Assessing sources of error in structural equation models: The effects of sample size, reliability, and model misspecification. *Structure Equation Modeling, 4*(3), 177-192, doi:10.1080/10705519709540070.
- Barron, K. E., & Harackiewicz, J. M. (2001). Achievement goals and optimal motivation: testing multiple goal models. *Journal of Personality and Social Psychology, 80*, 706-722.
- Bernardo, A. B. (2008). Individual and social dimensions of Filipino students' achievement goals. *International Journal of Psychology, 43*, 886-891.
- Bernardo, A. B., Salanga, M. G. C., & Aguas, K. M. C. (2008). Filipino adolescent students' conceptions of learning goals. In O. Tan, D. M. McInerney, A. D. Liem, & A. G. Tan (Eds.), *What the West can learn from the East: Asian perspectives on the psychology of learning and motivation* (pp. 169-190). Charlotte, NC: Information Age.
- Byrne, B. M. (2001). *Structural Equation Modeling With AMOS: Basic Concepts, Applications, and Programming*. New Jersey (NJ): Lawrence Erlbaum Associates Inc.
- Chao, R. K. (1996). Chinese and European American mothers' beliefs about the role of parenting in children's school success. *Journal of Cross-Cultural Psychology, 27*, 403-423.
- Chao, R. K., & Tseng, V. (2002). Parenting of asians. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 4. Social conditions and applied parenting* (pp. 59-93). Mahwah, NJ: Erlbaum.

- Chen, W.-W., & Wong, Y.-L. (2015a). Chinese mindset: Theories of intelligence, goal orientation and academic achievement in Hong Kong students. *Educational Psychology, 35*, 714-725.
- Chen, W.-W., & Wong, Y.-L. (2015b). The relationship between goal orientation and academic achievement in Hong Kong: The role of context. *The Asia-Pacific Education Researcher, 24*(1), 169-176.
- Chen-Bouck, L., Duan, C., & Patterson, M. M. (2016). A qualitative study of urban, Chinese middle-class mothers' parenting for adolescents. *Journal of Adolescent Research, 0743558416630815*.
- Chen-Bouck, L., Duan, C., & Patterson, M. M. (2017). A Qualitative Study of Urban, Chinese Middle-Class Mothers' Parenting for Adolescents. *Journal of Adolescent Research, 32*(4), 479-508, doi:10.1177/0743558416630815.
- Cheng, R. W.-y., & Lam, S.-f. (2013). The interaction between social goals and self-construal on achievement motivation. *Contemporary Educational Psychology, 38*, 136-148.
- Cheung, C. S.-S., & Pomerantz, E. M. (2011). Parents' involvement in children's learning in the United States and China: Implications for children's academic and emotional adjustment. *Child Development, 82*(3), 932-950.
- Cheung, C. S.-S., & Pomerantz, E. M. (2012). Why does parents' involvement enhance children's achievement? The role of parent-oriented motivation. *Journal of Educational Psychology, 104*, 820-832.
- Chow, S. S.-Y., & Chu, M. H.-T. (2007). The impact of filial piety and parental involvement on academic achievement motivation in Chinese secondary school students. *Asian Journal of Counselling, 14*, 91-124.
- Ciani, K. D., & Sheldon, K. M. (2010). Evaluating the mastery-avoidance goal construct: A study of elite college baseball players. *Psychology of Sport and Exercise, 11*, 127-132.

- Deci, E. L., & Ryan, R. M. (2000). The " what" and " why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.
- Dewey, J. (1916). *Education and democracy*. New York: Macmillan.
- Dewey, J. (1938). *Education and experience*. New York: Simon and Schuster.
- Dowson, M., & McInerney, D. M. (2003). What do students say about their motivational goals?: Towards a more complex and dynamic perspective on student motivation. *Contemporary Educational Psychology, 28*, 91-113.
- Dowson, M., & McInerney, D. M. (2004). The development and validation of the Goal Orientation and Learning Strategies Survey (GOALS-S). *Educational and psychological measurement, 64*, 290-310.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.
- Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist, 34*, 169-189.
- Elliot, A. J. (2006). The hierarchical model of approach-avoidance motivation. *Motivation and emotion, 30*, 111-116.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218-232.
- Elliot, A. J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*, 613-628.
- Elliot, A. J., & Thrash, T. M. (2001). Achievement goals and the hierarchical model of achievement motivation. *Educational Psychology Review, 13*, 139-156.
- Gonida, E. N., Voulala, K., & Kiosseoglou, G. (2009). Students' achievement goal orientations and their behavioral and emotional engagement: Co-examining the role of perceived school goal structures and parent goals during adolescence. *Learning and*

Individual Differences, 19, 53-60.

Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology, 85*, 541-553.

Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development, 65*, 237-252.

Hackel, T. S., Jones, M. H., Carbonneau, K. J., & Mueller, C. E. (2016). Re-examining achievement goal instrumentation: Convergent validity of AGQ and PALS. *Contemporary Educational Psychology, 46*, 73-80.

Hamamura, T. (2012). Are cultures becoming individualistic? A cross-temporal comparison of individualism–collectivism in the United States and Japan. *Personality and Social Psychology Review, 16*, 3-24.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*, 61-83.

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology, 45*, 740-763.

Ho, D. Y.-f. (1994). Filial piety, authoritarian moralism, and cognitive conservatism in Chinese societies. *Genetic, social, and general psychology monographs, 120*, 349-365.

Hong, Y.-y., Yang, Y. J., & Chiu, C.-y. (2010). What is Chinese about Chinese psychology? Who are the Chinese in Chinese psychology? In M. H. Bond (Ed.), *Oxford Handbook of Chinese Psychology* (pp. 19-29). Oxford ; Hong Kong: Oxford University Press.

Huang, C. (2012). Discriminant and criterion-related validity of achievement goals in predicting academic achievement: A meta-analysis. *Journal of Educational Psychology, 104*, 48-73.

- Hulleman, C. S., Schragger, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin, 136*, 422-449.
- Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American sociological review, 65*, 19-51.
- Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban Education, 42*, 82-110.
- Kim, J. I., & Chung, H. (2012). The role of family orientation in predicting Korean boys' and girls' achievement motivation to learn mathematics. *Learning and Individual Differences, 22*, 133-138.
- King, R. B., Ganotice, F. A., & Watkins, D. A. (2014). A cross-cultural analysis of achievement and social goals among Chinese and Filipino students. *Social Psychology of Education, 17*, 439-455.
- King, R. B., & McInerney, D. M. (2016). Examining the links between social goals and learning strategies. In R. B. King, & Bernardo, A.B.I. (Ed.), *The psychology of Asian learners: A Festschrift in honor of David Watkins* (pp. 405-417). Singapore: Springer.
- King, R. B., McInerney, D. M., & Watkins, D. A. (2012). Studying for the sake of others: The role of social goals on academic engagement. *Educational Psychology, 32*, 749-776.
- King, R. B., McInerney, D. M., & Watkins, D. A. (2013). Examining the role of social goals in school: A study in two collectivist cultures. *European Journal of Psychology of Education, 28*, 1505-1523.
- Lau, K.-L., & Lee, J. (2008). Examining Hong Kong students' achievement goals and their relations with students' perceived classroom environment and strategy use. *Educational Psychology, 28*(4), 357-372, doi:10.1080/01443410701612008.

- Lee, J. C., Yin, H., & Zhang, Z. (2010). Adaptation and analysis of Motivated Strategies for Learning Questionnaire in the Chinese setting. *International Journal of Testing, 10*, 149-165.
- Lee, J. Q., McInerney, D. M., Liem, G. A. D., & Ortiga, Y. P. (2010). The relationship between future goals and achievement goal orientations: An intrinsic–extrinsic motivation perspective. *Contemporary Educational Psychology, 35*(4), 264-279.
- Lee, M., & Bong, M. (2016). In their own words: Reasons underlying the achievement striving of students in schools. *Journal of Educational Psychology, 108*, 274-294.
- Lee, W. O. (1996). The cultural context for Chinese learners: Conceptions of learning in the Confucian tradition. In D. A. Watkins, & J. B. Biggs (Eds.), *The Chinese learner: Cultural, psychological and contextual influences* (Vol. 34, pp. 25–41). Hong Kong: CERC and ACER.
- Li, J. (2006). Self in learning: Chinese adolescents' goals and sense of agency. *Child Development, 77*, 482-501.
- Li, J. (2010). Learning to self-perfect: Chinese beliefs about learning. In C. K. K. Chan, & N. Rao (Eds.), *Revisiting the Chinese learner* (pp. 35-69). Dordrecht: Springer.
- Liem, G. A. D., Martin, A. J., Porter, A. L., & Colmar, S. (2012). Sociocultural antecedents of academic motivation and achievement: Role of values and achievement motives in achievement goals and academic performance. *Asian Journal of Social Psychology, 15*, 1-13.
- Linnenbrink, E. A. (2005). The dilemma of performance-approach goals: The use of multiple goal contexts to promote students' motivation and learning. *Journal of Educational Psychology, 97*, 197-213.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling, 9*,

151-173.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224-253.

Meece, J. L., Blumenfeld, P. C., & Hoyle, R. H. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology*, *80*, 514-523.

Midgley, C., Kaplan, A., & Middleton, M. J. (2001). Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost? *Journal of Educational Psychology*, *93*, 77-86.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E. M., Anderman, L., Freeman, K. E., et al. (2000). *Manual for the Patterns of Adaptive Learning Scales (PALS)*. Ann Arbor: University of Michigan.

Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology*, *21*, 388-422.

Ministry of Education of the People's Republic of China (2014). Educational statistics in 2014.

Murayama, K., Elliot, A. J., & Yamagata, S. (2011). Separation of performance-approach and performance-avoidance achievement goals: A broader analysis. *Journal of Educational Psychology*, *103*(1), 238-256, doi:10.1037/a0021948.

Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, *91*, 328-346.

Nicholls, J. G., Patashnick, M., & Nolen, S. B. (1985). Adolescents' theories of education. *Journal of Educational Psychology*, *77*, 683-692.

- Nie, Y., & Liem, G. A. D. (2013). Extending antecedents of achievement goals: The double-edged sword effect of social-oriented achievement motive and gender differences. *Learning and Individual Differences, 23*, 249-255.
- Pintrich, P. R. (2000a). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology, 25*, 92-104.
- Pintrich, P. R. (2000b). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 544-555.
- Pintrich, P. R. (2000c). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451-502). San Diego, CA: Academic Press.
- Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33-40.
- Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research, 77*, 373-410.
- Pomerantz, E. M., Qin, L., Wang, Q., & Chen, H. (2011). Changes in early adolescents' sense of responsibility to their parents in the United States and China: Implications for academic functioning. *Child Development, 82*, 1136-1151.
- Rao, N., & Sachs, J. (1999). Confirmatory factor analysis of the Chinese version of the Motivated Strategies for Learning Questionnaire. *Educational and Psychological Measurement, 59*, 1016-1029.
- Salili, F., Chiu, C. Y., & Lai, S. (2001). The influence of culture and context on students' motivational orientation and performance. In F. Salili, Chiu, C., & Hong, Y. (Ed.), *Student motivation : The culture and context of learning* (pp. 221-247). New York:

Kluwer Academic/Plenum.

- Salili, F., & Lai, M. K. (2003). Learning and motivation of Chinese students in Hong Kong: A longitudinal study of contextual influences on students' achievement orientation and performance. *Psychology in the Schools, 40*, 51-70.
- Schunk, D. H. (2005). Self-regulated learning: The educational legacy of Paul R. Pintrich. *Educational Psychologist, 40*, 85-94.
- Senko, C., Hulleman, C. S., & Harackiewicz, J. M. (2011). Achievement goal theory at the crossroads: Old controversies, current challenges, and new directions. *Educational Psychologist, 46*, 26-47.
- Senko, C., & Tropicano, K. L. (2016). Comparing three models of achievement goals: Goal orientations, goal standards, and goal complexes. *Journal of Educational Psychology, 108*(8), 1178-1192, doi:<http://dx.doi.org/10.1037/edu0000114>.
- Sommet, N., & Elliot, A. J. (2017). Achievement goals, reasons for goal pursuit, and achievement goal complexes as predictors of beneficial outcomes: Is the influence of goals reducible to reasons? *Journal of Educational Psychology, 109*(8), 1141-1162, doi:<http://dx.doi.org/10.1037/edu0000199>.
- Tao, V., & Hong, Y. (2014). When academic achievement is an obligation. *Journal of Cross-Cultural Psychology, 45*, 110-136.
- Tweed, R. G., & Lehman, D. R. (2002). Learning considered within a cultural context: Confucian and Socratic approaches. *American Psychologist, 57*, 89-99.
- Urduan, T., & Maehr, M. L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research, 65*, 213-243.
- Urduan, T., & Mestas, M. (2006). The goals behind performance goals. *Journal of Educational Psychology, 98*, 354-365.
- Van Yperen, N. W. (2003). Task interest and actual performance: the moderating effects of

assigned and adopted purpose goals. *Journal of Personality and Social Psychology*, 85, 1006-1015.

Author et al. (2016).

Author et al. (2017).

Watkins, D. A. (2010). Motivation and competition in Hong Kong secondary schools: The students' perspective. In C. K. K. Chan, & N. Rao (Eds.), *Revisiting the Chinese learner* (pp. 71-88). Dordrecht: Springer.

Wigfield, A., & Cambria, J. (2010). Students' achievement values, goal orientations, and interest: Definitions, development, and relations to achievement outcomes. *Developmental Review*, 30, 1-35.

Wigfield, A., Eccles, J. S., Fredricks, J. A., Simpkins, S., Roeser, R. W., & Schiefele, U. (2015). Development of achievement motivation and engagement. In R. Lerner (Ed.), *Handbook of child psychology and developmental science* (Seventh ed., pp. 657-700). New York: Wiley.

Wilder, S. (2014). Effects of parental involvement on academic achievement: a meta-synthesis. *Educational Review*, 66(3), 377-397.

Yu, A.-B., & Yang, K.-S. (1987). Social-oriented and individual-oriented achievement motivation: A conceptual and empirical analysis. In *Bulletin of the Institute of Ethnology, Academia Sinica (Taiwan)* (Vol. 64, pp. 51-98).

Zhu, C., Valcke, M., & Schellens, T. (2008). A cross-cultural study of Chinese and Flemish university students: Do they differ in learning conceptions and approaches to learning? *Learning and Individual Differences*, 18, 120-127.

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An Overview. *Educational Psychologist*, 25, 3-17.

Fig. 1 Diagram of social-academic goals' direct and indirect influence on SRL strategy use

Fig. 2 Path coefficients of goals and SRL strategy use (i.e., cognitive strategy use and self-regulation). All coefficients shown are standardized and statistically significant. χ^2 (328 N = 1002) = 1374.63, $p < .001$. RMSEA = .056, 95% CI [.053, .060], GFI = .92, CFI = .92, TLI = .91.

* $p < .05$. ** $p < .01$. *** $p < .001$. Two tailed significance.

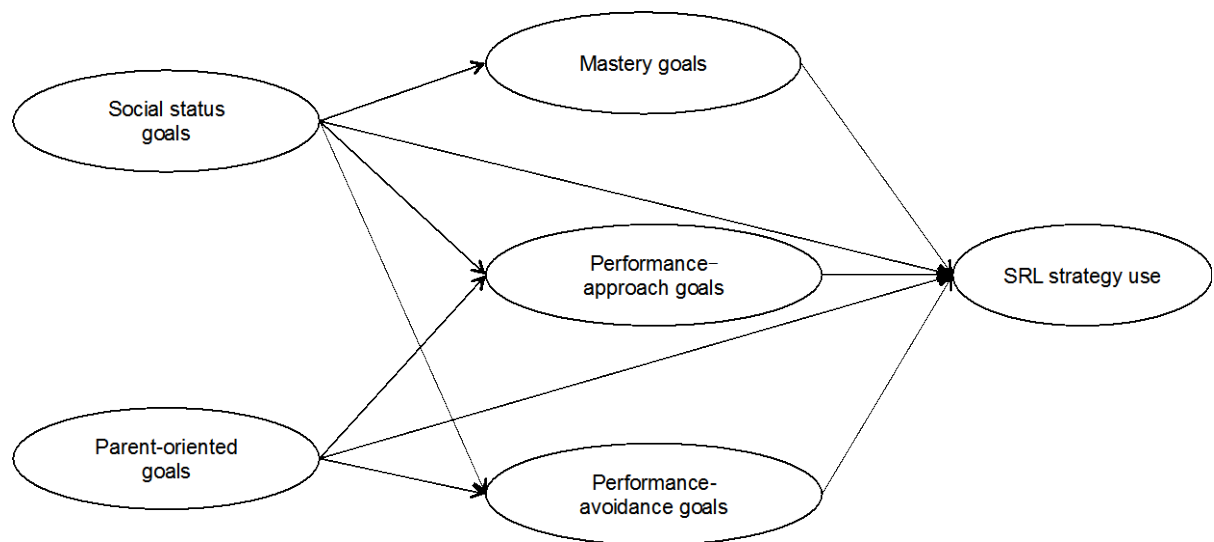


Fig. 1 Diagram of social-academic goals' direct and indirect influence on SRL strategy use

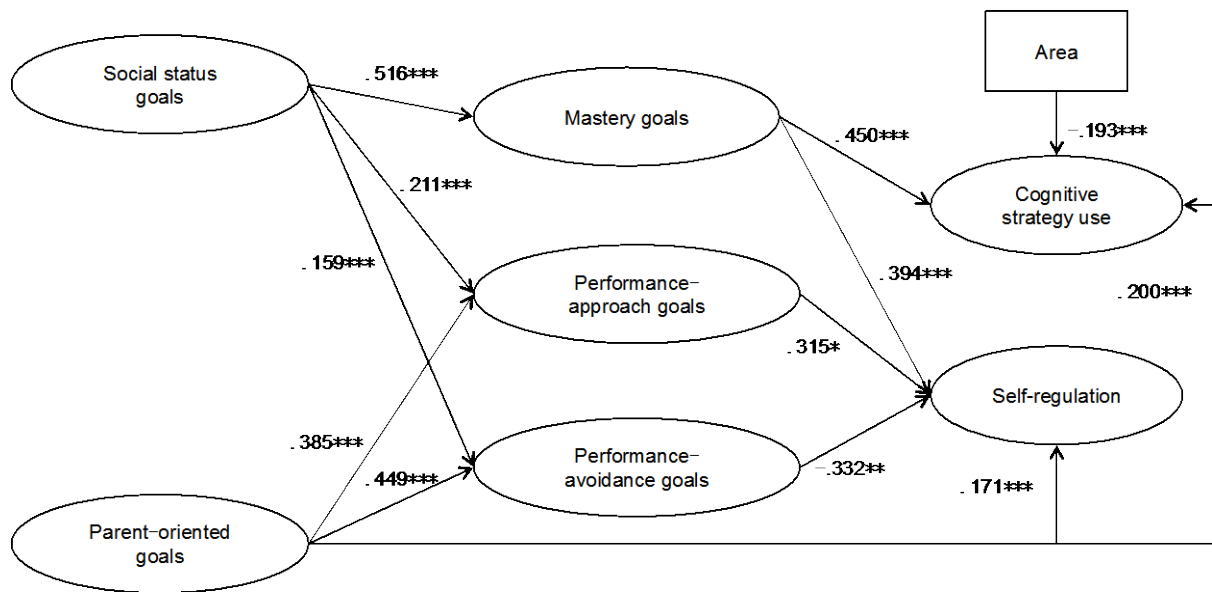


Fig. 2 Path coefficients of goals and SRL strategy use (i.e., cognitive strategy use and self-regulation)

Table 1*Correlations Among the Central Constructs (N = 1002)*

Variable	1	2	3	4	5	6	7	α	<i>M</i>	<i>SD</i>
								(JX)	(JX)	(JX)
<i>Social-academic goals</i>										
1. Parent-oriented goals	—	.45**	.13**	.33**	.42**	.24**	.16**	.86	3.28	.67
2. Social status goals	.46**	—	.33**	.31**	.25**	.18**	.16**	.83	4.06	.65
<i>Academic Achievement goals</i>										
3. Mastery goals	.27**	.44**	—	.29**	.08	.33**	.30**	.73	4.29	.53
4. Performance-approach goals	.47**	.41**	.37**	—	.57**	.13**	.07	.77	3.00	.75
5. Performance-avoidance goals	.50**	.38**	.23**	.66**	—	.16**	.08	.75	2.66	.80
<i>SRL strategy use</i>										
6. Cognitive learning strategies	.28**	.29**	.45**	.26**	.16**	—	.69**	.76	3.52	.48
7. Self-regulation	.24**	.24**	.40**	.23**	.08	.71**	—	.74	3.45	.56
α (SH)	.93	.89	.82	.84	.81	.81	.73			
<i>M</i> (SH)	3.12	4.08	4.23	3.02	2.82	3.64	3.47			
<i>SD</i> (SH)	.84	.73	.60	.83	.88	.49	.56			

Note. Correlations for the Shanghai sample (SH) are presented in the lower triangle, and correlations for the Jiangxi (JX) sample are presented in the higher triangle.

* $p < .05$. ** $p < .01$. Two tailed significance.

Table 2*Standardized Effects of Predictors on Cognitive Strategy Use/ Self-regulation (N = 1002)*

	Mastery goals	Social status goals	Parent-oriented goals	Performance-approach goals	Performance-avoidance goals
Total effect	.450**/ .394**	.194**/ .204**	.170**/ .144**	.081/ .315*	-.137/ -.332**
Direct effect	.450**/ .394**	-.033/ -.013	.200**/ .171**	.081/ .315*	-.137/ -.332**
Indirect effect	—	.227**/ .217**	-.030/ -.020*	—	—

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. Two tailed significance.