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College Students' Social Goals and Psychological Adjustment:  
Mediation Via Emotion Regulation

### **Abstract**

University life can be stressful and students may struggle to adjust socially. The present study examined students' social achievement goals— their orientations towards their relationships with their peers- as one important factor underlying students' social and psychological adjustment in college. When investigating the direct and indirect effects of social achievement goals on psychological adjustment (i.e., life satisfaction, depression, stress, and worry), the mediating role of emotion regulation was examined. Data were collected from students attending a university in China ( $N= 1,242$ , 35% male). The widely adopted three-factor structure of social achievement goals (i.e., social development goals, social demonstration-approach goals, social demonstration-avoidance goals) was confirmed to fit the data among Chinese college students. The results showed the direct and indirect benefits of endorsing a social development goal. Augmented emotion regulation mediated the effect of social development goals. The total effects of a social demonstration-approach goal were weak, but the goal indirectly impaired students' psychological adjustment via reduced emotion regulation. Endorsing a social demonstration-avoidance goal tended to compromise psychological adjustment and the effects were mediated through reduced emotion regulation. Implications for supporting students' adjustment to college are discussed.

*Keywords:* Social achievement goal, emotion regulation, social development goal, social demonstration-approach goal, social demonstration-avoidance goal, psychological adjustment

## College Students' Social Goals and Psychological Adjustment: Mediation Via Emotion Regulation

University life can be stressful and overwhelming, as students juggle school, work, friends, and family (Wintre & Yaffe, 2000). Stress levels may be even higher if a student attends a highly selective residential university with a rigorous curriculum, intense competition among students, and high performance standards. Students face new challenges, for example, adapting to living away from home or learning to share living space with other students, if they live in a residential hall. Reflecting such challenges, previous studies have reported a concerning trend of change in university freshmen's health and mental disorders, especially depression and anxiety. The trend was found all over the world (Bayram & Bilgel, 2008; Kessler & Walters, 1998; Stewart-Brown et al., 2000; Wong, Cheung, Chan, Ma, & Tang, 2006).

Interpersonal competence is considered as a major factor in college students' identity development (Chickering, 1967; Garfield & David, 1986) and overall college adjustment (Tinto, 1997). Similarly, the quality of social relationships and peer support are closely linked to university students' psychological adjustment (Hinderlie & Kenny, 2002; Swenson, Nordstrom, & Hiester, 2008). A meta-analysis indicated that the non-academic factors such as social support and social involvement are salient factors for postsecondary retention (Lotkowski, Robbins, Steven, & Noeth, 2004). In the literature about college student development and retention, various demographic factors affecting social integration in college (e.g., race, social class, religious affiliation, sexual orientation) have been extensively examined (Strayhorn, 2012). Given the identified importance, it is concerning that many university students struggle to socially adjust to college and report feeling lonely, anxious, and lacking positive relationships (Larose & Boivan, 1998; Stallman, 2010).

In the current study, we considered social achievement goals (Ryan & Shim, 2006, 2008), which have not been widely applied in the college student well-being literature. Social achievement goals refer to individuals' overall orientations toward social competence (developing competence vs. demonstrating competence) and are known to have important implications for individuals' adjustment and well-being (Kuroda & Sakurai, 2011; Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008; Shim, Cho, & Wang, 2013; Shim & Ryan, 2012). With social achievement goal theory as a guiding framework, we extended the literature by pursuing three aims. The main aim was to understand how social achievement goals were related to students' psychological adjustment. We included indicators of psychological well being such as life satisfaction, depression, anxiety, and worry.

Second, given that the process in which social achievement goals are related to psychological adjustment is largely unknown, we also explored whether emotion regulation mediated the effects of the goals. Along with social competence, emotion regulation is viewed as a critical factor contributing to college students' identity development (Chickering, 1967; Garfield & David, 1986). Social interactions are often emotional experiences, and successful social interactions require appropriate emotion regulation. The present study is the first to investigate this issue; therefore, no prior data are available. However, based on the theories of social achievement goals (Ryan & Shim, 2006; 2008) and control theory of self-regulation (Carver, Lawrence, & Scheier, 1996), we propose that students' approaches to their social relationships (i.e., social achievement goals) may relate to emotion regulation, which in turn may affect their psychological adjustment.

Third, while examining the direct and indirect effects of social achievement goals, we also examined whether social achievement goal framework is applicable to Chinese college

students. Most studies on social achievement goals were conducted with Western samples. In the current study, we investigated whether a widely adopted three-factor model of social achievement goals (i.e., social development goals, social demonstration-approach goals, social demonstration-avoidance goals, Ryan & Shim, 2006; 2008) fit the data collected from the Chinese college students. In addition, the current findings will be particularly informative for student affairs practitioners in the Chinese higher education system, in which no systematic or formal support for social-emotional needs is currently being offered (Tao, Dong, Pratt, Hunsberger, & Pancer, 2000).

Many American colleges offer orientation programs to support students' social-emotional adjustment during the transition to colleges. Unlike in the U.S., the university orientation in China is primarily in the form of military education and training as required by The Military Service Law of the People's Republic of China, ranging from two weeks to a month prior to the official start of studies (Xie, 2015). Such training is intended to improve patriotism, collectivism, and revolutionary heroism. Since 2011, Chinese ministry of Education and UNICEF (The United Nations Children's Fund) initiated the Social and Emotional Learning Project in some elementary schools in several provinces in China (Yaquing, 2014). Such efforts have not been extended to higher education. Both social achievement goals and emotional regulations are important facets of non-cognitive social-emotional competence. Accordingly, the current findings regarding social competence and emotion regulation will inform efforts to design and implement orientation or other social-emotional support programs for college students in China.

### **Social Achievement Goals**

The current study is guided by one prominent motivation theory: achievement goal orientation theory. Achievement goal orientations refer to qualitatively different approaches to

interpreting achievement-related situations and events. As in the academic domain, individuals approach social situations with distinct orientations toward competence (Ryan & Shim, 2006, 2008). Some may approach a social situation with a focus on developing social competence (i.e., improve one's social skills, deepen one's relationships, or get to know one's friends better), while others may approach the same situation with a focus on gaining social recognition or prestige. These social achievement goals are likely to affect how individuals interpret and react to social cues and interactions that, in turn, are likely to differentially impact their overall psychological adjustment.

Mirroring the achievement goal framework in the academic domain, Ryan and Shim (2006, 2008) developed and validated three types of social achievement goals (i.e., social development goals, social demonstration-approach goals and social demonstration-avoidance goals). Subsequent studies have demonstrated the importance of social achievement goals for individuals' academic, social and psychological adjustment (e.g., Shim & Ryan, 2012; Shim, Wang, & Cassady, 2013). With the focus on improving social skills and social relationships, individuals with *social development goals* are interested in cultivating deeper, more meaningful friendships by honing their social skills and competence. With the focus on appearing socially competent and desirable amongst peers, individuals with *social demonstration-approach goals* are focused on receiving positive feedback in social situations and gain improved social status. Appearing and being popular are important to these individuals with social demonstration-approach goals. Affiliating with peers who inflate their social image is also instrumental to the attainment of social demonstration-approach goals. Unlike its approach counterpart, *social demonstration-avoidance goals* focus on concealing one's social ineptness. Individuals driven by social demonstration-avoidance goals are interested in obscuring social incompetency and

avoiding potentially negative peer evaluations and social feedback. Avoiding looking “uncool” or “awkward” is important for these individuals.

Past research has documented the benefits of endorsing a social-development goal for positive social relations, social competence, better psychological well-being, and higher academic engagement (Horst, Finney, & Barron, 2007; Mouratidis & Sideridis, 2009; Ryan & Shim, 2006; Shim & Ryan, 2012; Shim et al., 2013). In contrast, a social demonstration-avoidance goal is linked to negative outcomes, such as depression (Kuroda & Sakurai, 2011), loneliness (Mouratidis & Sideridis, 2009), fear of negative evaluation (Horst et al., 2007), negative affect (e.g., worry, sadness, and fear, Shim, Wang, & Cassady, 2013), and internalizing behaviors (e.g., crying, Shim & Ryan, 2012). Compared to these two goals, the effects of a social demonstration-approach goal are rather weak and inconsistent. In some studies, the goal is associated with adaptive outcomes such as having a popular status among peers, heightened social confidence, and lower anxious behaviors (Ryan & Shim, 2008; Shim & Ryan, 2012). However, this goal has also been linked to debilitating outcomes such as social worry (Ryan & Shim, 2006; Shim et al., 2013), aggression (Shim & Ryan, 2012), and avoidance of academic help seeking (Ryan & Shin, 2011). In other studies, this goal has null relationships with psychological well-being indicators (e.g., Horst et al., 2007; Kuroda & Sakurai, 2011; Ryan & Shim, 2006). In summary, social achievement goals have important implications for academic, social, and psychological adjustment outcomes and the research consistently supports social developmental goals as more beneficial than other types of goals.

### **Application of Social Achievement Goals to Chinese College Students**

Social achievement goals have been examined mostly with students from the United States (Jones, Mueller, Royal, Shim, & Hart, 2013; Makara & Madjar, 2015; Ryan & Shim,

2006, 2008; Shim, Cho, & Wang, 2013). Only a few studies examined other ethnic groups (Muratidis & Sideridis, 2009 with Greek middle school students; Muratidis & Michou, 2011 with Greek elementary school students; Kuroda & Sakurai, 2011 with Japanese early adolescents). We could not discover any published work investigating social achievement goals among Mainland Chinese students.

In the current study, we examined whether the factor structure of social achievement goals is supported with our sample and whether these three types of goals function similarly among Chinese students. Previous studies on academic achievement goals suggested a higher correlation between the two types of performance goals, which are analogous to the social demonstration goals in the current study because these focus on demonstrating competence or concealing incompetence, among Asian samples compared to Western samples (Tao & Hong, 2000; Zusho et al., 2005). In Kuroda and Sakurai's (2011) study on social goals among Japanese adolescents, all three social goals were significantly positively correlated, with the strongest correlation being between demonstration-approach and -avoidance goals. Avoidance motivation is prevalent among individuals in collectivistic cultures (Hamamura, Meijer, Heine, Kamaya, & Hori, 2009) and thus demonstration-approach and -avoidance goals may not be separable as students may strive to demonstrate greater competence out of their strong desire to avoid disappointing their superiors (e.g., parents and teachers) and not letting their social groups down. However, it is premature to conclude that the commonly observed moderate to high correlation between performance approach and avoidance goals is a function of culture (Linnenbrink-Garcia et al., 2012). Clearly, more data with diverse samples are needed to determine whether the items and the factor structure are valid in other cultures.

Another reason to extend research on social goals to new cultural populations is to better understand cultural differences in the endorsement of social achievement goals and their relative effects on adjustment. While there is no theoretical basis predicting that the nature of a social development goal may differ among Chinese students, a social demonstration-avoidance goal may function differently in Chinese culture compared to Western cultures. In a *tight* culture (i.e., culture characterized by salient social norms and lower tolerance for deviant behaviors) (see Yuki & Brewer, 2014 for more information), individuals may care a lot about others' evaluation and judgment. Accordingly, heightened self-consciousness is likely to be high in Chinese cultures. Such cultural milieu promotes endorsement of social demonstration goals, especially the avoidance form, and individuals will avoid behaviors that may be viewed as inappropriate by others. It has yet to be determined whether social demonstration goals may show some adaptive function (i.e., relate positively to psychological adjustment) among a Chinese sample because of reinforcement from the cultural milieu.

### **Exploring Emotion Regulation as a Potential Mediator**

The extant social achievement goal research provides consistent support that social achievement goals matter for individuals' social and emotional functioning. Most prior studies begin with the premise that achievement goals affect individuals' cognitive, behavioral, and affective responses during social encounters by providing qualitatively different interpretative frameworks (Ryan & Shim, 2006, 2008). Nonetheless, specific mediational processes have not been well identified (for exceptions, see Roussel, Elliot, & Fletman, 2011; Shin & Ryan, 2012). As we describe below, there is data to support that emotion regulation may serve as a mediator.

The notion that orientation to develop competence affords individuals enhanced mental capacity to regulate themselves in a wide variety of situations is supported by research on

achievement goals in the academic domain (Elliot, 2005). Given that social interaction can often be an emotional experience, the present study aims to examine whether and how social achievement goals explain the extent to which students more easily succumb to the emotions caused by their social interactions. There is preliminary support that social achievement goals are differentially related to emotional experiences (Kuroda & Sakurai, 2011; Mouratidis & Michou, 2011; Shim, Wang, & Cassady, 2013). Given that frequent experiences of positive emotions and infrequent experiences of negative emotions are an important aspect of emotion regulation (Gross, Sheppes, & Urry, 2011), different social achievement goals may enhance or compromise an individual's ability to regulate emotions.

Emotion regulation is a multi-faceted process, including various processes such as understanding the emotions of oneself and others, controlling and expressing emotions, and using emotion strategies effectively. We do not offer a review of the various conceptual and operational definitions of emotion regulation, as it is beyond the scope of the current paper and available elsewhere (see Gross, 2014 and Thompson, 1994 for thorough reviews). In this study, we focus on the *ability to regulate emotions* (being able to control one's temper and handle difficulties, being able to calm down quickly when upset, etc.), as it is considered an important aspect of overall emotion regulation across many research programs (Thompson, 1994).

Research has shown that emotion regulation is a critical skill, not only for successful social relationships (Rubin & Krasnor, 1986), but also for psychological and physical well being (Romanelli, Cain, & Smith, 2006) and college students' retention and academic success (Parker, Hogan, Eastabrook, Oke, & Wood, 2006; Parker, Summerfeldt, Hogan, & Majeski, 2004; Perera & DiGiacomo, 2015). A deficiency of emotion regulatory skills is often a precursor of deviant behaviors and development of psychopathology (Calkins & Dedmon, 2000). Thus, we expect

that emotion regulation is a strong predictor of healthy patterns of psychological adjustment (high life satisfaction and low worry, depression, and stress).

Drawing from the control theory of self-regulation (Carver, Lawrence, & Scheier, 1996; see also Linnenbrink & Pintrich, 2002) and the research on self-regulation failure (Baumeister & Heatherton, 1996), it is plausible that different cognitive processes and concerns inherent in different social achievement goals may bolster or compromise university students' self-regulation capacity and, therefore, emotion regulation. Self-regulation is a limited resource and, when depleted, self-regulation failure is likely to occur (Baumeister & Heatherton, 1996). Undergirded by dispositional fear of failure, students with social demonstration-avoidance goals worry about potentially negative outcomes (e.g., being ridiculed, excluded, teased, and considered a 'nerd' or 'geek') (Roussel, Elliot, & Feltman, 2011), rather than anticipating or seeking positive outcomes (e.g., being liked, being popular) (Horst et al., 2007). Such a focus on negative events is stressful, which may lead to a higher expenditure of self-regulatory resources (Baumeister & Heatherton, 1996; Glass, Singer, & Friedman, 1969; see also Sapolsky, 2007). This is consistent with the research linking negative self-focused attention (Gaydukevych & Kocovski, 2012) and intrusive negative thoughts (Masicampo & Baumeister, 2007) to compromised self-regulatory capacity. While recurring automatic negative thoughts about past events are closely related to negative emotions, such as anxiety and depression (e.g., Beck & Clark, 1997), the tendency to attend to positive features of the environment contributes to high levels of psychological well-being (Carstensen, Gross, & Fung, 1998). Kuroda and Sakurai (2011), in fact, demonstrated that social achievement goals were linked to different levels of anticipated effects of interpersonal stress, which, in turn, were linked to depression.

Control theory of emotion (Carver et al., 1996) also predicts that differential emotion regulation capacity is associated with distinct social achievement goals. Different kinds of social outcomes are sought after depending on the types of social goals pursued. Less than optimal social interactions or relationships mean that more effort is needed from the perspective of individuals with social development goals. However, from a social demonstration goal standpoint, similar, unfavorable events are likely to signal incorrigible and inherent aspects of the self (Ryan & Shim, 2006). Thus, the social development goal perspective enables a constructive interpretation of setbacks, buttressing individuals' sense of control and autonomy, and is likely to contribute to increased self-regulatory capacity (Carver et al., 1996). Interpreting setbacks as an indication of incorrigible flaws inherent in the self (Ryan & Shim, 2006) makes students vulnerable, especially in confrontational situations such as those that might occur when adjusting to social life at universities, and compromises their mental capacities to exercise emotion regulation and, consequently, their psychological well-being (Mouratidis & Michou, 2011). Consistent with our rationale, when faced with peer aggression, individuals with social development goals tend to show fewer involuntary responses toward the aggressor (Rudolph, Abaied, Flynn, Sugimura & Agoston, 2001). There is ample evidence linking emotion regulation to aggression or pro-social behaviors (Eisenberg & Fabes, 1992). Considering the evidence emerging from different areas of research, the investigation of emotion regulation as a mediator is warranted.

In summary, based on the above rationales, we hypothesize that social development goals, with a focus on controllable outcomes and positive events, are likely linked to heightened emotion regulation capacity. The opposite is expected for social demonstration-avoidance goals. Aforementioned psychological processes, inherent in social demonstration goals, are likely to

hamper students' ability to track ongoing emotions and regulate emotional responses. Although a demonstration-approach goal shares many features of a social demonstration-avoidance goal, the approach nature of this goal is also associated with a positive self-view and heightened social self-efficacy to bring about desired social outcomes (Ryan & Shim, 2006, 2008). Such opposing effects may cancel each other, thus we hypothesize that social demonstration-approach goals may have a null relationship with emotional regulation.

### **The Present Study**

The overarching goal of the current study is to test the validity of a structural equation model in which emotion regulation serves as a mediator in the relationship between social achievement goals and psychological well-being indicators (i.e., life satisfaction, depression, stress, and worry). To summarize our hypotheses, we predicted that social development goals would be linked to students' higher emotion regulation and that social demonstration-avoidance goals would be linked to lower emotion regulation. We expected that social demonstration-approach goals could have a null relation with emotion regulation. In turn, we expected that enhanced or reduced emotion regulation would be linked to students' psychological adjustment while at university. Before we estimated the mediation model, we first tested if the three-factor social achievement goal model fit the data using confirmatory factor analysis. The current study is the first to extend social achievement goal research to a Chinese university sample (N=1,242) and, it explores the viability of the proposal that emotion regulation may serve as a mediator for the effects of social achievement goals on university students' psychological adjustment. Understanding this process may help shed light on why some students struggle to adjust socially and psychologically to the college experience.

## Method

### Participants and Procedures

The sample consisted of 1,242 undergraduate students (35% male, mean age=20.8; 29.7% freshman, 27.2% sophomore, 30.8% junior and 12.3% senior) from a university in Northeastern China. This university has a variety of majors, but the students who participated in this study had majors related to the medical field (i.e., clinical and preventative medicine, anesthesia and dental). The students were required to live in the residence halls throughout their time at the university. The first and second author administered the surveys in several large lecture classes over a week with the support of several undergraduate research assistants. Students were informed of the voluntary nature of their participation and the anonymity of their responses. The Institutional Review Board of the first author's home institution, located in the U.S.A, approved the study.

### Measures

All measures used a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Participants self-reported their social achievement goals, emotion regulation, and psychological adjustment. All scales were used in previous studies and found to be reliable in our study. The original items were in English and needed to be translated into Chinese. To ensure validity of the translated version of the measures, we followed a standard translation and back-translation procedure for this process (Hambleton & Patsula, 1998). The actual items are shown in Appendix A.

**Social achievement goals.** Social achievement goals refer to students' orientations towards social competence. Three types of goals were assessed using previously validated scales (Ryan & Shim, 2008). *Social development goals* concern students' focus on developing social

skills and deepening social relationships (6 items, e.g., “I feel successful when I learn something new about myself and how I relate to other people.”  $\alpha = .80$ ). *Social demonstration-approach goals* reflect students’ focus on demonstrating social desirability and gaining positive judgments from others (6 items, e.g., “It is important to me to be seen as having a lot of friends.”  $\alpha = .80$ ). *Social demonstration-avoidance goals* refer to students’ focus on concealing one’s social ineptness and avoiding negative judgments from others (6 items, e.g., “I would be successful if I could avoid being socially awkward.”  $\alpha = .82$ ).

**Emotion regulation.** The items for *emotion regulation* were drawn from Wong and Law (2002). These items refer to students’ ability to regulate their own emotions (4 items, “I have good control of my emotions”  $\alpha = .86$ ). The scale was validated with college students in Hong Kong, China (Wong & Law, 2002) and in Europe (Libbrecht, Lievens, & Schollaert, 2010).

**Psychological adjustment.** Four aspects of psychological adjustment were included. We measured *life satisfaction* using an adapted scale from Huebner (2004) (7 items, e.g., “I am satisfied with my life.”  $\alpha = .77$ ) and *worry* using items from Meyer, Miller, Metzger, and Borkovec (1990) (PSWQ, Penn State University Worry Questionnaire, 4 items, e.g., “I am always worrying about something.”  $\alpha = .80$ ). We measured *depression* (5 items, e.g., “I felt that life was meaningless.”  $\alpha = .85$ ) and *stress* (5 items, e.g., “I felt that I was using a lot of nervous energy.”  $\alpha = .83$ ) using scales from Lovibond and Lovibond (1995, DASS).

### Statistical Analysis

To address our research questions, we ran structural equation modeling using Mplus software, Version 7 (Muthén & Muthén, 2012). We followed Hu and Bentler’s (1999) recommendation to determine whether the model has an adequate fit: Comparative Fit Index

(CFI) > .90, Root Mean Square Error of Approximation (RMSEA) < .08, Standardized Root Mean Square Residual (SRMR) < .08, and Tucker Lewis Index (TLI) > .90.

### Results

Means, standard deviations, correlations, and reliabilities are reported in Table 1.

[Insert Table 1 around here]

First, we conducted confirmatory factor analysis to determine the factor structure of social achievement goals with the current sample. Conceptually, three factor models have been proposed and received empirical support across many previous studies (Jones et al., 2013; Ryan & Shim, 2006, 2008; Shim, Cho, Wang, 2013). However, due to the high correlation between the observed variables (demonstration-approach and –avoidance goals), we compared the three-factor model with a two-factor model (combining demonstration-approach and –avoidance goals) using confirmatory factor analysis. The three-factor social achievement goals model had an adequate fit,  $\chi^2(119) = 442.82$ ; RMSEA = .05; CFI = .94; TLI = .92; SRMR = .05; Akaike Information Criteria (AIC) = 57021.19; Bayesian Information Criterion (BIC) = 57379.90. Standardized factor loadings were all significant at  $p < .001$  and ranged from .48 to .78. In contrast, the two-factor social achievement model with social development goals and combined social demonstration goals showed a poor fit to the data,  $\chi^2(121) = 894.74$ ; RMSEA = .07; CFI = .86; TLI = .82; SRMR = .06; AIC = 57623.49; BIC = 57971.95. Given such CFA evidence, we proceeded with the trichotomous model of social achievement goals.

For our main analysis (structural equation modeling), we used bootstrapping with a resampling of 1,000 to test the significance of the indirect effects of social achievement goals and students' psychological adjustment. Bootstrapping is one of the most valid approaches with high power to detect intervening variable effects (Preacher & Hayes, 2008). All possible paths

from the goals to the mediator (emotion regulation) and from the mediator to the outcomes were estimated. Overall, the model fit the data adequately,  $\chi^2(816) = 2726.87$ ,  $\chi^2/df = 3.34$ , RMSEA = .04; CFI = .92, TLI = .91; SRMR = .05). Direct paths were not shown in the mediation model figure (see Figure 1). As shown in Figure 1, social development goals were related to higher emotion regulation while the two types of demonstration goals were related to lower emotion regulation. Emotion regulation was positively related to life satisfaction but negatively related to depression, stress, and worry.

### **Indirect Effects**

We decomposed the total effects of social achievement goals into direct effects and indirect effects (see Table 2). As shown in Table 2 total effects, social development goals showed a desirable pattern of relationships with the adjustment outcomes (higher life satisfaction and lower depression, anxiety, and worry) and social demonstration-avoidance goals showed the opposite pattern. Greater endorsement of a social demonstration-approach goal was positively related to depression, but not related to any other outcome variables. Thus, as expected, the total effects of the three types of goals are mostly consistent with the general pattern found with European samples.

The effects of a social development goal on stress and worry were fully mediated by emotion regulation, whereas the effects on life satisfaction and depression were partially mediated, accounting for 38% and 16% of the total effects, respectively. The effects of a social demonstration-avoidance goal were partially mediated through diminished emotion regulation. Except for depression, all the other indirect effects of a social demonstration-avoidance goal through emotion regulation were significant, accounting for 15% ~ 29% of the total effects.

The effects of a social demonstration-approach goal on depression were partially mediated through reduced emotion regulation. However, this indirect effect was not statistically significant. Although a social demonstration-approach goal did not have significant total effects with life satisfaction, stress and worry, it was indirectly related to them through emotion regulation. Such indirect effects were significant for life satisfaction and marginally significant ( $p < .06$ ) for stress and worry.

[Insert Figure 1 and Table 2 around here]

### Supplemental Analyses

**Tests of alternative models.** The structural equation model estimated in the current study is theory-driven. We began with the theoretical proposition that social achievement goals serve as the superordinate framework; therefore, it was hypothesized that goals direct the effortful emotional restraints needed and, thus, affect emotion regulation capacity in social interactions. However, given the correlational nature of the present data, there are viable alternative models that need to be considered: a) Emotion regulation predicts social achievement goals and then psychological well-being indicators (Alternative Model 1 – Direction of influence from emotion regulation to social achievement goals) or b) Social achievement goals interact with emotion regulation in predicting psychological well-being indicators (Alternative Model 2 – Emotion regulation as a moderator of goal effects).

Our analyses indicated that alternative models 1 and 2 did not yield a better fit to the data than our proposed mediation model. For alternative model 1, the data did not fit well for our sample,  $\chi^2(819) = 2744.51$ ,  $\chi^2/df = 3.35$ , RMSEA = .04; CFI = .89, TLI = .88; SRMR = .10. Specifically, there were only two significant indirect paths through social development goals to

life satisfaction and depression. For alternative model 2, there were no significant latent interactions between social achievement goals and emotional regulation,  $p \geq .075$ .

### **Summary of Findings**

The results indicated that a three-factor model of social achievement goals fits well with the current data. The main effects of the three social achievement goals were consistent with theoretical predictions. As expected, social development goals were beneficial, and the effects were partially or fully mediated through enhanced emotion regulation. In contrast, the direct and indirect effects of social demonstration-avoidance goals were maladaptive and were partially mediated through reduced emotion regulation. Consistent with the complex patterns found in prior research, the total effects of social demonstration-approach goals were weak. This goal type was related to high depression and did not show any desirable effects. Furthermore, social demonstration-approach goals seemed to indirectly relate to life satisfaction, stress, and worry through reduced emotion regulation capacity.

### **Discussion**

Investigating college students' psychological adjustment is critical, given the reported rise in depression and other mental health problems (Bayram & Bilgel, 2008; Kessler & Walters, 1998; Stewart-Brown et al., 2000; Wong, Cheung, Chan, Ma, & Tang, 2006). Social-emotional adjustment is an indicator of overall well-being but often related to academic success and eventual graduation. To understand the contributing factors for college students' psychological well-being, we have applied a social achievement goal theory framework. Consistent with prior research (e.g., Kuroda & Sakurai, 2011; Mouratidis & Sideridis, 2009; Ryan & Shim, 2006; 2008; Shim, Cho, & Wang, 2013; Shim & Ryan, 2012), the current data indicated that different

approaches to social events and relationships can bring about different consequences in psychological functioning.

Furthermore, we extended the literature by identifying emotional regulation as one possible mechanism through which different types of social achievement goals may relate to students' psychological adjustment. The current data showed strong adaptive direct and indirect effects, via emotion regulation, of social development goals on psychological adjustment outcomes. Thus, when focusing on gaining insight on their friendships and improving relationships, students are likely to be less concerned about how others view them. Such focus may protect available self-regulatory resources to monitor and regulate their emotions. In turn, increased emotional regulation was adaptive for students' psychological adjustment across a range of indicators.

Consistent with our prediction, a social demonstration-approach goal showed a better profile than a social demonstration-avoidance goal. Despite general lack of overall effects of social demonstration-approach goals, the results suggest that this goal may still impair students' psychological adjustment through compromised emotion regulation capacity. Such results may shed light onto the previously reported association between a social demonstration-approach goal and aggressive behaviors (Shim & Ryan, 2012). On the one hand, individuals with a social demonstration-approach goal may engage in relational aggression and coercive behaviors *willfully* and *intentionally* because they may consider these behaviors as effective means to accomplish their goal of maintaining a favorable position in the social hierarchy (Ryan & Shim, 2008; Shim & Ryan, 2012). On the other hand, such behaviors may occur *unintentionally*, and simply reflect these individuals' inability to control temper or anger, as indicated by the result of reduced self-regulatory resources.

In terms of overall relationships with the psychological outcomes, a social demonstration-avoidance goal was maladaptive across the board. This goal negatively predicted life satisfaction while positively predicting depression, stress, and worry. Further, this goal compromised university students' adjustment directly and indirectly through its negative relationship with emotion regulation.

Taken together, the present study illuminates one way that social achievement goal effects are channeled and thus, provides a better explanation of the process through which university students' social goals may lead to their adaptive and maladaptive adjustment. To date, several mechanisms of change have been identified. One of them is the different ways individuals cope with social problems. Different social achievement goals are related to different coping mechanisms (e.g., mastery coping, avoidance coping, and nonchalant coping), which in turn, affect social functioning such as best friendship quality, anxious solitude, and overt aggression (Shin & Ryan, 2012). Another potential mediational link is through cost/benefit analysis of behavior. The approach valence of goals tends to lead individuals to think positively and consider gains over potential losses (Roussel, Elliot, & Feltman, 2011). Such cognitive construal triggered by overarching goals affects the eventual choice of help-seeking behaviors. These findings and the current finding underscore that social achievement goals may influence how university students view social events and relationships, evaluate the effectiveness of a potential action, and choose how to respond to challenges.

Although the focus of the present study is on self-regulation of emotion, there is ample evidence that achievement goals focused on developing competence may enhance general self-regulatory capacity as well. Research on academic achievement goals has accumulated evidence linking mastery goals (the academic counterpart of a social development goal) with enhanced

self-regulation (see Elliot, 2005 and Hulleman & Senko, 2010 for reviews on the effects of academic achievement goals) and mindfulness (Neff, Hsieh, & Dejitterat, 2005). Thus, across academic and social domains, focusing on developing competence seems to contribute to self-regulatory capacity, which should be explored in future work. The current study confirms that such link exists in the social domain, suggesting that students' psychological well-being can be enhanced through university programs that aim to foster adaptive social achievement goals (a more distal predictor), as well as directly enhancing students' ability to regulate their emotions (a more proximal predictor).

Furthermore, this study provides an expanded examination of the social achievement goals framework with a Chinese sample. The three-goal factor structure and exclusivity of demonstration-approach and –avoidance goals was supported within this university student sample, as is the case with Western samples (e.g., Horst et al., 2007; Ryan & Shim, 2006). However, we also found an interesting divergence in the strength of association between social-development and demonstration goals. To be specific, the positive correlations between social development goals with both social demonstration goals were stronger (.48 and .36 with demonstration-approach and avoidance goals, respectively) than those found in these Western samples (.05 and .18 reported in Horst et al., 2007; .18 and .20 reported in Shim & Ryan, 2012). Chinese students may differentiate less between their intrapersonal focus on wanting to improve relationships and interpersonal pressures to do so. The strong positive correlation between social demonstration-approach and demonstration-avoidance goals was similar to those found in studies with Western college students (.59 reported in Horst et al., 2007; .62 reported in Shim & Ryan, 2012). Given that not many studies have been conducted with a Chinese sample, future replication is needed to confirm whether this pattern is unique to the sample in this study.

### **Limitations of the Current Study**

The present study is subject to the limitations of a correlational study design using self-report data. Specifically, our data can provide no basis for causal inference. Our model that depicts social achievement goals as antecedents of emotion regulation is drawn theoretically, and our supplemental analyses provide some empirical support for the proposed model rather than alternative models (emotion regulation predicting social achievement goals, and an interaction between the two). However, the direction of influence between emotion regulation and psychological adjustment may go either way, or even be bidirectional. For example, unlike the direction portrayed in the present study, alternative explanations show that depression among adolescents tends to affect their use of an emotion regulation strategy (Larsen et al., 2013).

Future studies could explore these possibilities with longitudinal data.

Emotion regulation can involve up-regulation (i.e., amplification), maintenance, or down-regulation (i.e., reduction) (Parrott, 1993). The emotion regulation measure used in the current study focuses on down-regulation (e.g., calming oneself down, not losing one's temper). Down-regulation is important because psychopathology is often characterized as excessive negative emotions (e.g., worry, depression, or anxiety). However, up-regulation (e.g., amplifying joy and happiness when hearing about a colleague's big award or excitement when dealing with boring tasks for extended time) can be adaptive and is important in some situations, such as among depressive individuals (Rottenberg, Gross, & Gotlib, 2005). We have not considered specific emotion regulation strategies in the current study. Future research examining both types of emotion regulation (i.e., up and down regulation), with attention to specific regulation strategies (e.g., suppression, re-appraisal, denial), could be a fruitful extension of the present study.

It should also be noted that the extent to which the current findings are unique to our sample is unclear. The current study was conducted in a medical university, in which most students are majored in medical or public health-related fields (e.g., nursing, hospital administration, family medicine). The direct relationships between social achievement goals and psychological adjustment in this sample is similar to Western studies, thus it is possible that emotional regulation as a mediator is a universal phenomenon. However, some researchers argue that social goals may be much more powerful in explaining Asian students' overall adjustment at school due to collectivistic values (King, Ganotice, & Watkins, 2014). Accordingly, future studies using Chinese samples from various types of universities and cross-cultural comparison designs are called for to determine whether social achievement goals function similarly across different cultures. In summary, the current results indicated that social achievement goals are related to different levels of emotion regulation and both constructs jointly affect students' psychological well-being. Other mediators of the effects of social achievement goals can be illuminated in the future studies.

### **Practical Implications**

Despite aforementioned limitations, the current findings have useful suggestions for administrators, counsellors, and student affair practitioners in universities and colleges. Many colleges offer social programs and clubs, designed to help students make friends, join peer groups, and establish a social support network. These programs are helpful, but students can reap the most benefits if they approach these situations with social development goals (e.g., becoming a better social partner, a better listener) rather than with social demonstration goals (e.g., the concern for their social status and others' evaluation of them).

Unfortunately, currently there are no known interventions based on social achievement goals. To make the matter worse, social media, which is an integral part of many college students' lives nowadays (Jones, 2002), is inundated with the images and messages undergirded by social demonstration approach goals (Cramer, Song, & Drent, 2016). Such a demonstration-goal focused culture of social media might be underneath the negative correlation between time spent on social media and psychological well being (Chou & Edge, 2012; Cramer, Song, & Drent, 2016). The avoidance counterpart of social demonstration-approach goal is also problematic. Social demonstration-avoidance goals lead students to avoid social situations altogether, and thus deprive students of opportunities to practice social skills and build social competence. In contrast, a social development goal perspective can support these students as they participate in social situations by allowing interpretation of social mishap as part of development and growth, rather than an indication of inadequate self.

The current findings have implications for the instructors in higher education. Research has shown that students are more likely to endorse social goals that focus on developing social skills and building deep friendship when their classroom environment emphasizes learning and personal progress rather than competition (Markara & Madjar, 2015; Shim, Cho, & Wang, 2013). Accordingly, professional development programs can be offered for college instructors, to inform them about the importance of such development goals.

Student services and counselors can work with university leaders to organize workshops and facilitate group discussions among students to help them identify their social motivation and orient them towards adopting social development goals. Many universities offer workshops focusing on celebration of cultural diversity. Social achievement goals framework can be easily integrated into such programs. Other, simpler, means of disseminating social development goals

via wall signs around campus can be considered. Guiding students toward collaborative activities (e.g., volunteering projects or peer mentoring) rather than competitive activities (e.g., review games, contests) will be instrumental to promoting social development goals. Although universal programs to support college students' social-emotional needs would be beneficial, mentors and advisors can communicate critical goal messages via informal discussion with the students as well. Knowing about the nature and dynamics associated with different social achievement goals can help higher education personnel better advise their students, especially those who struggle socially and/or experience poor psychological well being due to excessive social demonstration goals. The good news for the practical application of these findings in a university setting is that achievement goals are malleable, and can be altered via others' encouragement (Elliot, 2005 for a review).

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Table 1

*Means, Standard Deviations, Correlations and Reliabilities (N = 1,242)*

	1	2	3	4	5	6	7	8
1 Social Development Goals								
2 Social Demonstration Approach Goals	.48**							
3 Social Demonstration Avoid Goals	.36**	.58**						
4 Emotion Regulation	.18**	-.02	-.07*					
5 Life Satisfaction	.17**	.02	-.06*	.36**				
6 Depression	-.13**	.08**	.15**	-.17**	-.36**			
7 Stress	-.01	.12**	.19**	-.25**	-.32**	.74**		
8 Worry	.03	.14**	.23**	-.27**	-.31**	.64**	.78**	
Means	3.95	3.01	3.28	3.29	3.22	2.21	2.55	2.65
Standard Deviations	.65	.76	.78	.84	.64	.78	.80	.84
Reliabilities (Cronbach's $\alpha$ )	.80	.80	.82	.86	.77	.85	.83	.80

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2: *Total, Direct and Indirect Effects Between Social Achievement Goals and Outcomes with Emotion Regulation as a Mediator*

Paths	Total Effects	Direct Effects	Indirect Effects	95% CI
Social Development Goals-->Life Satisfaction	.34***	.21***	.13***	[.09, .18]
Social Development Goals-->Depression	-.32***	-.27***	-.05**	[-.08, -.02]
Social Development Goals-->Stress	-.15**	-.06(ns)	-.09***	[-.14, -.06]
Social Development Goals-->Worry	-.12*	-.00(ns)	-.11***	[-.15, -.07]
Social Dem-App Goals-->Life Satisfaction	-.03(ns)	.03(ns)	-.05*	[-.10, -.001]
Social Dem-App Goals-->Depression	.15*	.13*	.02(ns)	[-.003, .04]
Social Dem-App Goals-->Stress	.09(ns)	.05(ns)	.04+	[.00, .07]
Social Dem-App Goals-->Worry	.09(ns)	.04(ns)	.04+	[.00, .09]
Social Dem-Avd Goals-->Life Satisfaction	-.17**	-.12*	-.05*	[-.11, -.01]
Social Dem-Avd Goals-->Depression	.22***	.20**	.02(ns)	[-.003, .04]
Social Dem-Avd Goals-->Stress	.23***	.19**	.04*	[.003, .07]
Social Dem-Avd Goals-->Worry	.27***	.23***	.04*	[.01, .08]

*Note.* +  $p < .06$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Due to rounding, the total effects may not necessarily be the sum of indirect and direct effects.

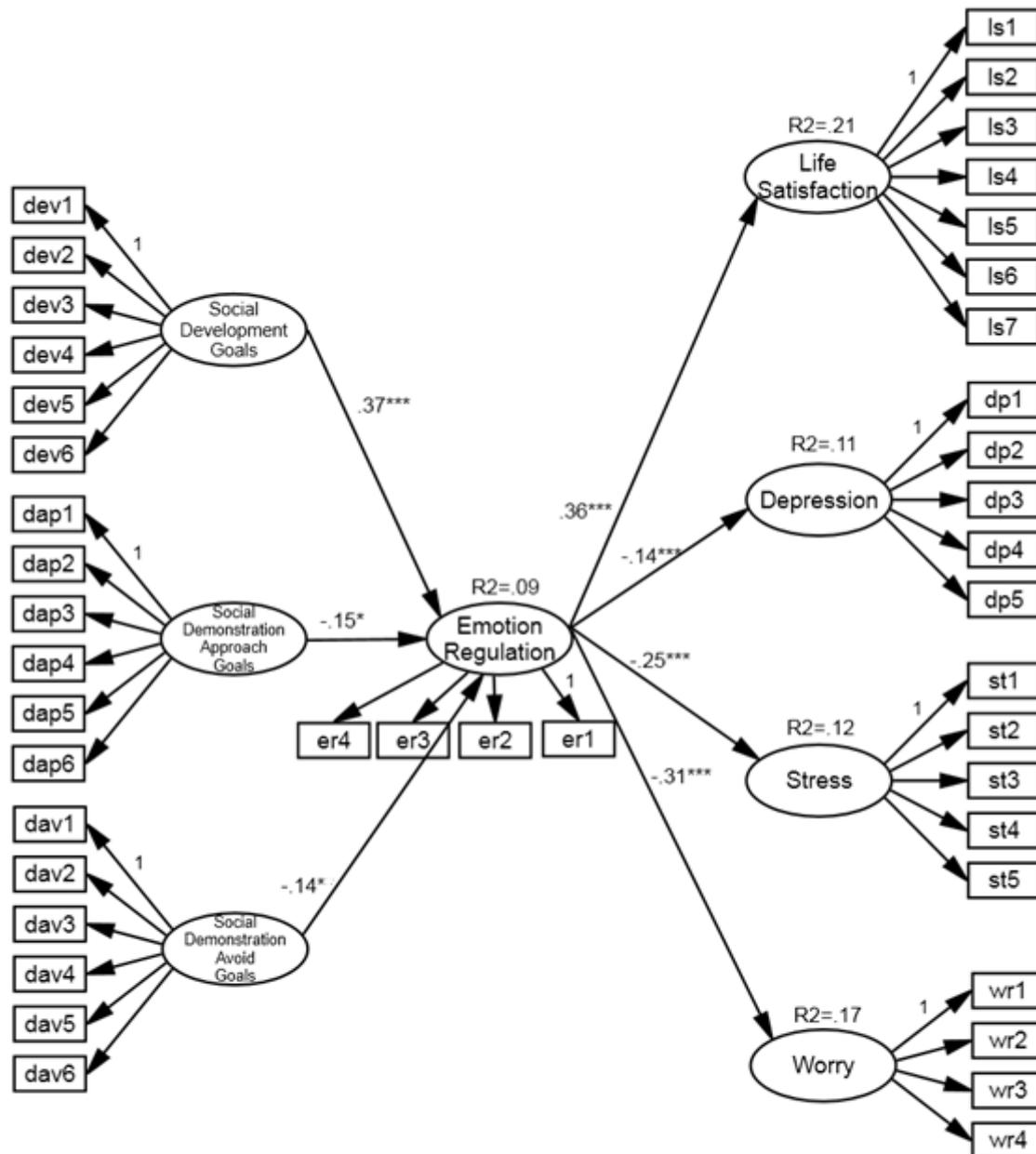


Figure 1. The mediation model with emotion regulation as a mediator. Paths that are not significant are not shown in the figure. All path coefficients are standardized. **For clarity, direct paths are not shown.** \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Appendix A. List of Constructs and the Items Used

**Social Development Goals**

1. I like it when I learn better ways to get along with friends.
2. I feel successful when I learn something new about how to get along with other kids.
3. I try to figure out what makes a good friend.
4. One of my goals is that my friendships become even better over time.
5. It is important to me to learn more about other kids and what they are like.
6. In general, I try to develop my social skills.

**Social Demonstration-Approach Goals**

1. It is important to me that other kids think I am popular.
2. It is important to me to have “cool” friends.
3. I want to be friends with the “popular” kids.
4. It is important to me to be seen as having a lot of friends.
5. I try to do things that make me look good to other kids.
6. My goal is to show other kids how much everyone likes me.

**Social Demonstration-Avoidance Goals**

1. I try not to do anything that might make other kids tease me.
2. It is important to me that I don't embarrass myself around my friends.
3. I try to avoid doing things that make me look foolish to other kids.
4. When I am around other kids, I don't want to be made fun of.
5. When I am around other kids, I mostly just try not to goof up.
6. One of my main goals is to make sure other kids don't say anything bad about me.

**Emotion Regulation**

1. I am able to control my temper and handle difficulties rationally.
2. I am quite capable of controlling my own emotions.
3. I can always calm down quickly when I am very angry.
4. I have good control of my own emotions.

**Life Satisfaction**

1. My life is better than most others
2. I have a good life.
3. My life is just right.
4. I wish I had a different kind of life.<sup>R</sup>
5. I have what I want in my life.
6. My life is going well.
7. I am satisfied with my life.

**Depression**

1. I couldn't seem to experience any positive feeling at all
2. I felt that I had nothing to look forward to
3. I felt down-hearted and blue
4. I was unable to become enthusiastic about anything
5. I felt that life was meaningless

**Stress**

1. I tended to over-react to situations
2. I felt that I was using a lot of nervous energy
3. I found it difficult to relax
4. I was intolerant of anything that kept me from getting on with what I was doing
5. I felt that I was rather touchy

**Worry**

1. I know I should not worry about things, but I just cannot help it.
2. I am always worrying about something.
3. As soon as I finish one task, I start to worry about everything else I have to do.
4. Once I start worrying, I cannot stop.