



Special Issue Article

Academic and social achievement goals: Their additive, interactive, and specialized effects on school functioning

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Background. Students' pursuit of academic and social goals has implications for school functioning. However, studies on academic and social achievement goals have been relatively independent and mainly conducted with students in culturally Western settings.

Aims. Guided by multiple-goal perspectives, this study examined the role of academic and social achievement goals in outcome variables relevant to academic (achievement, effort/persistence), social (peer relationship satisfaction, loneliness), and socio-academic (cooperative learning, competitive learning, socially regulated, and self-regulated learning) functioning.

Sample. A total of 356 Indonesian high-school students (mean age = 16 years; 36% girls) participated in the study.

Methods. A self-report survey comprising items drawn from pre-existing instruments was administered to measure distinct dimensions of achievement goals and outcomes under focus. Regression analysis was performed to examine additive, interactive, and specialized effects of achievement goals on outcomes.

Results. Aligned with the hierarchical model of goal relationships (Wentzel, 2000, *Contemp. Educ. Psychol.*, 25, 105), academic and social achievement goals bore additive effects on most outcomes. Findings also revealed a specialized effect on academic achievement and notable interactive effects on cooperative learning. In general, mastery-approach and performance-approach goals were more adaptive than their avoidance counterparts. The effects of social development goals were positive, whereas those of social demonstration-approach goals were mixed. Contrary to prior findings, social demonstration-avoidance goals did not appear to be inimical for school functioning.

Conclusions. Findings underscore the importance of both academic and social achievement goals in day-to-day school functioning and the need to consider the meaning of goals and the coordination of multiple goals from cultural lenses.

The term 'achievement goals' refers to cognitive representations of competence-related purposes that individuals seek to pursue (i.e., approach motivation) or stay away from (i.e., avoidance motivation) (Schunk, Meece, & Pintrich, 2014). The achievement goals that students hold have important implications for their achievement-related processes

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and outcomes (Linnenbrink-Garcia, Tyson, & Patall, 2008). Academic and social goals have been identified as two domains of goals pertinent to school functioning (Wentzel, 2000). Recent theorizing and research (Elliot, 2006; Ryan & Shim, 2006) have focused on distinct sets of academic and social achievement goals representing the academic and social competencies that students aim to attain (or avoid not attaining) and the reference standards they use to evaluate that attainment.

In the academic domain, the widely researched achievement goals are mastery-approach (MAp), mastery-avoidance (MAv), performance-approach (PAp), and performance-avoidance (PAv) goals (Elliot & McGregor, 2001). Based on intrapersonal and task-related standards, students pursuing MAp goals seek to develop academic competence, whereas students pursuing MAv goals focus on preventing the failure of acquiring academic competence. Using interpersonal or normative standards, students pursuing PAp goals seek to attain academic competence that is better than others, whereas students pursuing PAv goals are oriented to avoid performing worse relative to others.

In the social domain, the achievement goals currently under research focus include social development (SDev), social demonstration-approach, and social demonstration-avoidance (SDAv) goals (Ryan & Shim, 2006). Students pursuing SDev goals aim to develop social competence, those pursuing social demonstration-approach goals (SDAp) seek to demonstrate social competence to gain others' positive judgments, and those pursuing SDAv goals aim to avoid others' negative judgments of (their lack of) social competence.

Joint role of academic and social achievement goals

Although the pursuit of multiple goals has been recognized to hold important implications for school functioning (Wentzel, 2000), little research has examined the joint role of academic and social achievement goals in the same study. Of the three published studies, two were based on a variable-centred design using multiple regression analyses to examine relationships between specific goals and outcomes (Ryan & Shim, 2006; Walker, Winn, & Lutjens, 2012) and one adopted a person-centred paradigm using a latent class approach to identify groups of students differing in their goals profiles and how these profiles were associated with outcome variables (Shim & Finch, 2014).

In a study with American undergraduates, Ryan and Shim (2006; Study 3) found that MAp and SDev were positive predictors of relationship quality, self-acceptance, personal growth, and sense of autonomy, whereas SDAv and PAv emerged as negative predictors of these outcomes. An interactive effect indicated that SDAP and autonomy were negatively correlated in students with low SDev but unrelated in those with high SDev. However, the interactions of academic and social achievement goals were not examined. In another study with American college students, Walker *et al.* (2012) found MAp and SDev positively predicted *eudaimonic* well-being focusing on personal development, whereas PAp and SDAP bore independent positive effects on *hedonic* well-being associated with desires for immediate pleasures. Unfortunately, this study did not consider the interactive effects of goals.

In a recent study with American high-school students, Shim and Finch (2014) found that students high on MAp and SDev and those high on MAp and all three social achievement goals tended to be more academically engaged, showed more adaptive patterns of help-seeking behaviours and learning strategies, held more positive academic self-beliefs, and reported better social adjustment compared to those low on all the goals and those low on academic achievement goals but moderate on social achievement goals.

Shim and Finch asserted, ‘students tend to adjust well at school as long as they have a strong mastery goal focus and the presence or absence of social achievement goals did not make substantial differences, [however] for the students who show moderate levels of academic achievement goals, having social achievement goals helped to keep them engaged at school’ (pp. 104–105).

Taken together, two of the studies reviewed above (Ryan & Shim, 2006; Walker *et al.*, 2012) did not consider the interactive effects of academic and social achievement goals and focused mainly on psychosocial well-being outcomes. The third study (Shim & Finch, 2014) that looked into academic (intrinsic motivation), social (interpersonal satisfaction), and socio-academic (help seeking) outcomes of the multiple-goal adoption was based on a person-centred analysis and thus unable to show the unique and relative salience of the goals in predicting individual outcomes. Furthermore, all the studies were conducted in North American settings and did not appear to be strongly grounded in theoretical perspectives relevant to the pursuit of multiple goals (Harackiewicz & Linnenbrink, 2005; Pintrich, 2000; Wentzel, 2000). Notwithstanding these inherent limitations, the findings generally concurred that, when considered jointly, MAP and SDev are more adaptive than other goals.

This study extended the literature in the following ways. First, aligned with the different mechanisms in which goals may play a joint role in predicting outcomes (Barron & Harackiewicz, 2001), the study considered the additive, interactive, and specialized effects of academic and social achievement goals. In doing so, second, the study was guided by two multiple-goal perspectives that have been articulated in the literature (Pintrich, 2000; Wentzel, 2000) but were hardly alluded to in prior studies. Third, the study examined a multitude of outcome variables salient to students as they negotiate their day-to-day schooling demands. These variables can be classified into academic outcomes (academic achievement, effort/persistence); social outcomes (peer relationship satisfaction, loneliness); and socio-academic outcomes encompassing academic behaviours related to others such as parents, teachers, or peers (attitudes towards cooperative and competitive learning, socially regulated learning, and its self-regulated counterpart). Most of these outcomes have not been assessed in relation to the joint effects of academic and social achievement goals. Finally, the cross-cultural validity of social achievement goal model and its measure (Ryan & Shim, 2006) to Indonesian adolescents has not been previously studied. This study is an avenue to test the transferability of the Western-based achievement motivation framework to a non-Western context such that potentially cross-culturally similar and incongruent relationships between social achievement goals and their correlates can be better understood.

Multiple-goal perspectives

Students’ achievement-related processes and outcomes are consequences of the multitude and diversity of goals that they pursue and coordinate in their schooling life. The ideas underlying two multiple-goal perspectives that have been proposed in the literature (Pintrich, 2000; Wentzel, 2000) are not mutually exclusive and can be complementarily used to better understand the adoption of multiple goals in the school setting.

One of such multiple-goal perspectives, emanating from the academic achievement goal literature, posits the educational benefits of simultaneously adopting both MAP and PAP (Senko, Hulleman, & Harackiewicz, 2011). Barron and Harackiewicz (2001) specified four possible mechanisms in which these two goals can jointly affect outcomes, three of which – additive, interactive, and specialized effects – are particularly relevant to the

present study. *Additive effects* are evidenced when two goals have independent main effects on an outcome. To illustrate, using multiple regression, Wolters, Yu, and Pintrich (1996) found MAP and PAp both positively predicted self-efficacy, task value, cognitive strategies, and self-regulated learning. Thus, the effects of two goals are additive when the main effect of one goal on an outcome is significant *beyond* that of the other when their effects are simultaneously examined, typically using multiple regression where the relative contributions of two or more predictors on an outcome can be teased out.

Regardless of their independent main effects, *interactive effects* are observed when the effect of one goal on an outcome depends on the other goal. This effect was shown in a study using regression-based interaction terms by Wolters *et al.* (1996) who found the positive relationships between MAP on task values and self-efficacy were moderated by PAp such that these relationships diminished when students held a high level of PAp. Lastly, *specialized effects* occur when two goals have unique main effects on different outcomes. For instance, in multiple regression analyses looking into the joint effects of goals on individual components of self-regulated learning, Pintrich, Zusho, Schiefele, and Pekrun (2001) found specialized effects in which MAP predicted interest and elaboration, whereas PAp predicted anxiety.

The other multiple-goal perspective in the educational psychology literature concerns the goal contents that students hold in the school. Within this perspective, Wentzel (2000) proposed two models particularly relevant to how students' pursuit of academic and social goals leads to school functioning. The first model, *the complementary model*, posits that academic and social goals lead to learning outcomes in a complementary but independent way. That is, whilst academic goals are believed to predict task engagement and social goals predict interpersonal engagement, both types of engagement are ultimately the catalysts of skill development.

The complementary model is well aligned with the specialized-effect proposition, and they can be theoretical grounds to test domain-specific effects in which academic achievement goals predict only academic outcomes and social achievement goals predict only social outcomes (Hypothesis 1). Evidence for this hypothesis indirectly comes from studies showing domain-specific relationships between goals and outcomes. In their reviews, Hulleman, Schrager, Bodmann, and Harackiewicz (2010) and Linnenbrink-Garcia *et al.* (2008) showed the consistent links between academic achievement goals and academic achievement and effort/persistence, with MAP and PAp positively associated and MAV and PAV negatively associated with these two academic outcomes. In terms of social achievement goals, studies showed SDev predicted higher school belongingness, prosocial behaviours, and best friend quality, but lower loneliness; SDAV predicted higher loneliness and social worry but lower aggressive behaviours and popularity; and SDAP predicted higher perceived popularity and aggressive behaviours but lower prosocial behaviours (Mouratidis & Sideridis, 2009; Ryan & Shim, 2008). These prior findings, however, provided indirect support for the specialized-effect hypothesis because the effects of academic and social achievement goals were not considered simultaneously.

The second model, *the hierarchical model*, suggests that, in addition to the domain-specific relationships between goals and outcomes, the pursuit of academic goals can be a channel to attain social goals (and vice versa) and this reciprocal relationship of the two domain-specific goals has implications for skill development (Wentzel, 2000). That is, the pursuit of academic goals can lead to social engagement that facilitates learning, and the pursuit of social goals may lead to task-related engagement which then also promotes learning. That is, students regulated by the 'academic goal→social goal' hierarchy may

seek to do well at academic tasks to please their parents or teachers. For example, a student in Dowson and McInerney's (2003) qualitative study espoused, 'I want to show my teachers that I'm a good student, so I try hard in class and want to do better in my exam' (p. 102). Students regulated by the 'social goal→academic goal' hierarchy may try to be cooperative and adhere to classroom rules to accomplish a task well. Indeed, social responsibility and social concern goals predicted academic engagement over and above the effects of M_{Ap} and P_{Ap} (King, McInerney, & Watkins, 2012).

The hierarchical model expands the complementary model by positing that, in addition to their domain-specific effects, academic achievement goals may have cross-domain, additive effects on social outcomes and social achievement goals may have cross-domain, additive effects on academic outcomes (Hypothesis 2). This hypothesis is indirectly supported by research demonstrating the social consequences of academic achievement goals, with M_{Ap} and P_{Ap} positively associated and P_{Av} negatively associated with satisfying peer relationships (Levy, Kaplan, & Patrick, 2004; Liem, Lau, & Nie, 2008). Correspondingly, the established links between social responsibility, peer relationships, and learning processes (King *et al.*, 2012; Liem & Martin, 2011; Wentzel, 1991) support the hypothesized association between social achievement goals and academic outcomes. However, these prior findings (except that of King *et al.*, 2012) provided only indirect support to the cross-domain, additive-effect hypothesis because the role of academic and social goals was not examined jointly in these studies.

The hierarchical model further suggests that academic and social achievement goals may have additive effects on the socio-academic outcomes that are inherently academic and social. Indeed, the literature has shown that M_{Ap} positively predicted attitudes towards helping others and willingness to cooperate in group work, whereas P_{Av} negatively predicted these outcomes (Levy *et al.*, 2004; Poortvliet & Darnon, 2014). Relative to M_{Ap}, P_{Ap} was associated more strongly with competitive motives and more weakly associated with cooperative motives (Poortvliet & Giebels, 2012). Whilst no study has examined the links between social achievement goals and cooperative and competitive learning, S_{Dev} was expected to predict cooperative learning which provides a platform for students to hone their social skills. In contrast, S_{D_{Ap}} and S_{D_{Av}} may predict competitive learning due to the focus on normative standards of evaluation shared between the two goals and competitive learning.

The literature has also maintained that some students are more self-regulated in learning in that they set their academic goals and try to attain these goals through their self-determined ways (Zimmerman, 2008), whereas some others might be more socially regulated such that they pursue academic expectations set by others (teachers, parents) and evaluate their attainments based on other-set standards (Yu & Yang, 1994). Although prior research showed the positive links between M_{Ap} and P_{Ap} and both socially and self-regulated learning (e.g., Liem, Martin, Porter, & Colmar, 2012), no study has examined the joint effects of academic and social achievement goals on these socio-academic outcomes. This study sought to do so.

The hierarchical model implies that the relationships between goals may be causally mediational in affecting school functioning. That is, social goals may mediate the links between academic goals and outcomes and academic goals may mediate the links between social goals and outcomes. However, according to Wentzel (2000, p. 109), 'although academic and social goals may be "causally and hierarchically related," [this] "causality" is in the mind of the students'. This suggests that the relationships between goals are inherently interdependent such that academic and social achievement goals may have interactive effects on outcomes. For example, students high on M_{Ap} and S_{Dev} could

have stronger preferences for cooperative learning than those high on either goal or low on both goals because the cooperative learning provides an opportunity for them to develop both academic and social competencies. The interactive effect is aligned with the converging effect of goals on student motivation found in Dowson and McInerney's (2003) interviews. For example, when asked about their future in school, a student said, 'I hope I can understand all my work and can help my friends if they need it . . . that's when school is the best' (p. 106). Taken together, the hierarchical model can also be a basis to predict interactive effects between academic and social achievement goals on outcomes (Hypothesis 3).

The present study: Aim, hypotheses, and context

This study investigated the joint effects of academic and social achievement goals on academic (achievement, effort/persistence), social (peer relationship satisfaction, loneliness), and socio-academic (attitudes towards cooperative and competitive learning and socially and self-regulated learning) outcomes. Based on the models positing the possible joint effects of goals on learning processes and outcomes put forward in the literature (Harackiewicz & Linnenbrink, 2005; Pintrich, 2000; Wentzel, 2000), the study sought to test the following general hypotheses:

Hypothesis 1

(*specialized-effect hypothesis*): Academic achievement goals predict only academic outcomes, and social achievement goals predict only social outcomes.

Hypothesis 2

(*additive-effect hypothesis*): Academic and social achievement goals independently predict academic, social, and socio-academic outcomes.

Hypothesis 3

(*interactive-effect hypothesis*): The effects of academic achievement goals on academic, social, and socio-academic outcomes depend on the level of social achievement goals, and vice versa.

This study was conducted with high-school students in Indonesia, a South-East Asian nation and the world's largest archipelago comprising more than 17,500 islands. With a population of over 245 millions representing more than 300 distinct native ethnicities, the Javanese makes up 42% of the Indonesian population followed by other native ethnicities (the Sundanese, the Balinese, etc.). The Chinese in Indonesia belongs to a non-native ethnic minority and represents only around 2.5% of the population (Liem & Kennedy, in press).

Method

Participants and procedure

The sample comprised 356 Indonesian high-school students, of whom 185 (52%) were in Grade 10 and 171 (48%) were in Grade 11. The sample's mean age was 16 years ($SD = 0.89$). A total of 191 (54%) are males and 165 (46%) are girls, and 145 (41%) are Chinese and 211 (59%) are non-Chinese. The sample was drawn from a co-educational and mixed-ability school. Upon the principal's permission, the author administered the survey

in individual classrooms on a designated day in the beginning of the second of semester (there were two semesters in an academic year).

Measures

Measures drawn from pre-existing questionnaires were selected to measure participants' achievement goals and outcomes. As Bahasa Indonesia is the medium of instruction in all the Indonesian schools, the measures were translated into the language through a back-translation procedure (van de Vijver & Hambleton, 1996). All the items in this study were rated by participants on a 7-point scale, ranging from 1 (*not at all true of me*) to 7 (*very true of me*), but on a 6-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) for peer relationship satisfaction and loneliness items and on a 5-point scale ranging from 1 (*never*) to 5 (*always*) for effort regulation items. As shown in Table 1, all the subscales indicated good reliability.

Goals

The Achievement Goal Questionnaire (Elliot & McGregor, 2001), comprising 12 items subsumed into four 3-item subscales, was used to measure MAP (I desire to completely master the material presented in this class), MAV (I am often concerned that I may not learn all that there is to learn in this class), PAP (It is important for me to do well compared to

Table 1. Descriptive statistics, distributional properties, Cronbach's alphas, and summary of items' factor loadings

Factor	Possible	Mean	SD	Skew	Kurt	α	Target loadings Range (mean)
	score Range						
Predictors							
Mastery-approach goals	1–7	5.19	1.22	–.72	.44	.84	.84–.88 (0.86)
Mastery-avoidance goals	1–7	4.87	1.48	–.54	–.28	.86	.83–.91 (0.88)
Performance-approach goals	1–7	5.22	1.37	–.74	.22	.89	.87–.92 (0.90)
Performance-avoidance goals	1–7	4.73	1.43	–.49	–.21	.77	.71–.91 (0.81)
Social development goals	1–7	5.68	0.92	–.68	.56	.75	.67–.83 (0.75)
Social demonstration- approach goals	1–7	3.86	1.46	–.01	–.69	.81	.73–.88 (0.80)
Social demonstration- avoidance goals	1–7	5.25	1.21	–.78	.49	.73	.70–.77 (0.74)
Outcomes							
Attitude towards cooperative learning	1–7	5.20	1.09	–.76	.76	.90	.61–.79 (0.73)
Attitude towards competitive learning	1–7	4.91	1.22	–.43	–.28	.88	.63–.73 (0.69)
Socially regulated learning	1–7	4.94	0.99	–.23	–.30	.84	.44–.74 (0.57)
Self-regulated learning	1–7	5.00	0.89	–.22	.06	.81	.42–.64 (0.52)
Academic effort and persistence	1–5	3.17	0.81	–.20	–.20	.76	.71–.80 (0.77)
Peer relationship satisfaction	1–6	4.47	0.84	–.57	.69	.80	.56–.71 (0.62)
Perceived loneliness	1–6	2.72	1.20	.47	–.63	.62	.61–.78 (0.71)
Academic achievement	0–100	66.58	5.60	.21	.12	.74	.59–.85 (0.71)

Note. Skew = skewness; Kurt = kurtosis.

others in this class), and PAv (My goal in this class is to avoid performing poorly). The Social Achievement Goal Questionnaire (Ryan & Shim, 2006), consisting of three 4-item subscales, was used to measure SDev (In general, I strive to develop my interpersonal skills), SDAp (It is important to me that others think of me as popular), and SDAv (I try not to goof up when I am out with people). A 7-factor principal component analysis with varimax rotation was conducted on the 24 academic and social goal items. Seven clearly extracted factors, accounting for 69.62% of the variance, corresponded to the four hypothesized academic goals and the three hypothesized social goals. All the items substantially loaded on the target factor, and no items loaded on a non-target factor $>.29$ (Table 1). This finding provided evidence for the distinctiveness of the seven goal predictors in this study.

Academic outcomes

Achievement scores in five subjects (Mathematics, English, Bahasa Indonesia, Religious Studies, Citizenship Education) obtained at the end of the academic year were used as objective indicators of academic achievement. These scores were provided by the school upon permission by the principal. The five subjects were selected as they were compulsory subjects taught to Grade 10 and Grade 11 students. Three items of the Motivated Strategies for Learning Questionnaire (Pintrich & De Groot, 1990) were used to measure academic effort and persistence (When work is hard I study only the easy parts). As all the items were negatively worded, the responses were reversed-coded such that higher scores represented perseverance in learning.

Social outcomes

Items from the Psychological Well-being Scale (Ryff & Keyes, 1995) were selected to measure the extent to which students feel satisfied in their peer relationship (I enjoy personal and mutual conversations with friends) and feel lonely in the class (I don't have many friends who want to listen when I need to talk). These items were adapted to measure the quality of interpersonal relationships in the class.

Socio-academic outcomes

The Cooperative and Competitive Attitude Scale (Johnson & Norem-Hebeisen, 1979) was used to measure attitudes towards cooperative and competitive learning. The cooperative subscale comprised seven items (I like to share my ideas and materials with other students), and the competitive subscale comprised eight items (I work to get better grades than other students do). The Achievement Orientation subscales (Yu & Yang, 1994), each comprising nine items, were used to measure socially regulated learning (I work hard to reach the academic standards my parents set for me) and self-regulated learning (I enjoy making progress towards the educational goals that I have set for myself).

Principal component analysis with a varimax rotation was conducted on all the 50 outcome items and achievement scores. The eight extracted components, accounting for 54.12% of the variance, clearly represent the eight outcome factors examined in this study. All the outcome items, including the five subject-specific achievement scores, substantially loaded onto their respective target factor, and no items and achievement scores loaded onto a non-target factor with a factor loading $>.40$ (Table 1). This psychometric result provided evidence for the multidimensionality of the eight outcome variables in this

study and justified the aggregation of the five subject-specific achievement scores as one grade-point-average- or GPA-like academic achievement factor.

Sociodemographic covariates

Information on sex (0 = boy, 1 = girl), ethnicity (0 = non-Chinese, 1 = Chinese), grade level (0 = Grade 10, 1 = Grade 11), and age was gathered through the survey. Age was analysed as a continuous variable.

Results

Correlational analyses

As reported in Table 2, M_{Ap}, P_{Ap}, S_{Dev}, and S_{DAv} were positively correlated with cooperative and competitive learning, socially regulated and self-regulated learning, and peer relationship satisfaction. M_{Av} and P_{Av} showed negative correlations with academic achievement and effort/persistence. M_{Av} was also positively correlated with loneliness. The correlations between predictors and outcomes ranged between low and moderate ($-.01 < r_s < .58$) suggesting their relatively independent relationships. Compared to the boys, the girls were higher on P_{Ap} and S_{Dev}, cooperative learning, socially regulated learning, and peer relationship satisfaction, but lower on loneliness. Older students were higher on P_{Av} than younger students. Whilst the Grade 11 students were lower on M_{Ap}, they were found to be higher on P_{Av}, S_{DAp}, S_{DAv}, and competitive learning than the Grade 10 students. The Chinese students were lower than the non-Chinese students on M_{Av} and P_{Ap}, cooperative learning, and achievement scores, but higher on P_{Av}. Given these differences, sex, age, grade level, and ethnicity were controlled in all the main analyses.

Hierarchical regression analysis

Two-step hierarchical regression analysis was performed to predict each outcome (Table 3). In Step 1, academic and social achievement goals were entered as predictors, whilst controlling for sex, ethnicity, age, and grade. In Step 2, a total of 21 two-way interaction terms were entered to examine the interactive effects between academic and social goals (12) and, for completeness, between academic goals (6) and between social goals (3) as well. To avoid multicollinearity, the interaction terms were created by multiplying main term scores previously standardized to have $M = 0$ and $SD = 1$ across the entire sample (Aiken & West, 1991). To minimize the possibility of type I errors (i.e., rejecting null hypotheses when they are true) due to the large number of interactive effects in the analysis, the significance level of $p < .01$ was selected.

Academic achievement

Regressing academic achievement on the goal model in Step 1 yielded an overall significant effect, $F(11, 343) = 8.02, p < .001, R^2 = .20$, with P_{Ap} ($\beta = .23, p < .001$) as a positive predictor, whereas M_{Av} ($\beta = -.17, p < .01$) and P_{Av} ($\beta = -.21, p < .001$) were estimated as negative predictors. The entry of interaction terms in Step 2 did not significantly increase R^2 , $\Delta F(21, 322) = 0.73, p > .05$, and none of the interactive effects was significant.

Table 3. Academic and social achievement goal effects on outcomes: A two-step hierarchical regression analysis

Goal predictors	Academic outcomes				Social outcomes			
	Academic achievement		Academic effort and persistence		Peer relationship satisfaction		Perceived loneliness	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Sex	.01	.03	.05	.06	.10*	.09	-.18**	-.16**
Age	-.25***	-.25***	.10	.11	.03	.05	.05	.08
School grade	.10	.12	-.11	-.10	.01	-.02	-.11	-.13*
Ethnicity	-.03	-.03	-.06	-.07	.10	.08	-.01	-.02
Mastery-approach (MAp)	-.08	-.05	.14*	.13	.11	.14*	-.10	-.07
Mastery-avoidance (MAv)	-.17**	-.16**	-.30***	-.32***	.01	-.01	.32***	.31***
Performance-approach (PAp)	.23***	.26***	.14*	.09	.07	.08	.06	.11
Performance-avoidance (PAv)	-.21***	-.22***	-.18**	-.17**	-.01	-.04	-.01	-.02
Social development (SDev)	.12*	.04	.02	.08	.32***	.31***	-.15**	-.24**
Social demonstration-approach (SDAp)	.01	.02	-.12*	-.13*	.09	.12*	.02	.01
Social demonstration-avoidance (SDAv)	-.01	-.01	-.04	-.01	.04	.07	.03	.01
R ²	.20***	.24***	.22***	.26***	.22***	.29***	.15***	.24***
ΔR ²		.04		.04		.07		.09*

Goal predictors	Socio-academic outcomes					
	Attitude towards cooperative learning		Attitude towards competitive learning		Socially regulated learning	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Sex	.05	.04	-.09*	-.06	.01	.02
Age	-.02	-.03	.01	-.01	-.03	-.02
School grade	.06	.04	.10*	.08	.03	.02
					-.05	-.06
					-.01	-.02
					.03	.02

Continued

Table 3. (Continued)

Goal predictors	Socio-academic outcomes							
	Attitude towards cooperative learning		Attitude towards competitive learning		Socially regulated learning		Self-regulated learning	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Ethnicity	-.07	-.05	-.05	-.03	-.03	-.03	.07	.07
MAP	.26***	.26***	.15**	.15**	.34***	.34***	.33***	.36***
MAV	-.05	-.02	-.10*	-.10*	.01	-.01	-.08	-.05
PAP	.18**	.15**	.52***	.52***	.36***	.37***	.26***	.31***
PAV	-.10*	-.15**	.03	.08	.08	.07	.03	.03
SDev	.33***	.30***	.10	.07	.15***	.13**	.36***	.37***
SDAp	-.02	.01	.13**	.12**	-.01	-.01	-.15**	-.12**
SDAv	.02	.10	.18***	.18***	.10*	.13*	.09	.04
PAP × SDev			.19**					
PAP × PAV			.19**					
R ²	.35***	.42***	.56***	.60***	.50***	.53***	.48***	.53***
ΔR ²		.07*		.04*		.03		.05*

Note. Sex (0 = boys, 1 = girls), ethnicity (0 = non-Chinese, 1 = Chinese), age (continuous variable), and grade (year 10 and year 11) are covariates controlled in all the models. To reduce type I error, only significant interaction effects at $p < .01$ are considered and reported in this table (see text). Step 1 and Step 2 refer to steps in the hierarchical regression analysis.
 * $p < .05$, ** $p < .01$, *** $p < .001$.

Academic effort and persistence

Step 1 of the analysis predicting academic effort/persistence yielded a significant overall effect, $F(11, 343) = 8.88, p < .001, R^2 = .22$. MAP ($\beta = .14, p < .05$) and PAp ($\beta = .14, p < .05$) emerged as positive predictors, whereas MAV ($\beta = -.30, p < .001$), PAV ($\beta = -.18, p < .01$), and SDAP ($\beta = -.12, p < .05$) emerged as negative predictors. The inclusion of interaction terms in Step 2 did not significantly increase $R^2, \Delta F(21, 322) = 0.94, p > .05$, and none of the interactive effects was significant.

Peer relationship satisfaction

Step 1 yielded a significant overall effect, $F(11, 343) = 8.61, p < .001, R^2 = .22$, with SDev as the only significant predictor ($\beta = .32, p < .001$). Although the inclusion of interaction terms in Step 2 did not significantly increase $R^2, \Delta F(21, 322) = 1.47, p > .05$, and none of the interactive effects was significant, MAP and SDAP ($\beta = .14$ and $\beta = .12$, respectively, $p < .05$) became significant predictors in Step 2.

Loneliness

Step 1 resulted in a significant overall effect, $F(11, 343) = 5.41, p < .001, R^2 = .15$. In this model, MAV emerged as a positive predictor ($\beta = .32, p < .001$), whereas SDev emerged as a negative predictor ($\beta = -.15, p < .01$). The entry of interaction terms in Step 2 significantly increased $R^2, \Delta F(21, 322) = 1.70, p < .05$. However, none of the interactive effects was significant.

Cooperative learning

Step 1 of the analysis yielded a significant overall effect, $F(11, 343) = 16.91, p < .001, R^2 = .35$, with MAP ($\beta = .26, p < .001$), PAp ($\beta = .18, p < .01$), and SDev ($\beta = .33, p < .001$) as positive predictors, whereas PAV ($\beta = -.10, p < .05$) emerged as a negative predictor of cooperative learning. In Step 2, the inclusion of interaction terms accounted for a significant increase in the explained variance, $\Delta F(21, 322) = 1.73, p < .05$. Two interactive effects were significant. The first was the interaction between PAp and SDev ($\beta = .19, p < .01$; Figure 1a), showing that the positive effect of PAp on cooperative learning was amplified when students also adopted high SDev. As a result, those high on both PAp and SDev exhibited the most positive attitude towards cooperative learning relative to all the other students. The second interaction involved PAp and PAV ($\beta = .19, p < .01$; Figure 1b). This effect showed that students higher on PAp were also more positive in their attitudes towards cooperative learning than those lower on PAp. Among the students lower on PAp, however, those with high PAV reported less positive attitude towards cooperative learning than those with low PAV.

Competitive learning

Step 1 yielded a significant overall effect, $F(11, 343) = 39.19, p < .001, R^2 = .56$. In this model, PAp ($\beta = .52, p < .001$), MAP ($\beta = .15, p < .001$), SDAP ($\beta = .13, p < .01$), and SDAP ($\beta = .18, p < .001$) emerged as positive predictors. Although none of the interactive effects was significant, the entry of interaction terms in Step 2 significantly increased $R^2, \Delta F(21, 322) = 1.61, p < .05$.

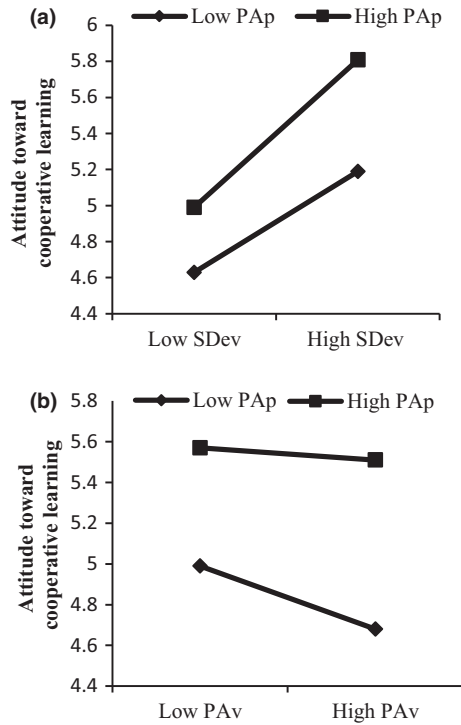


Figure 1. Interaction effects of academic and social achievement goals on attitude towards cooperative learning. (a) Interaction of performance-approach (PAp) × social development (SDev) and (b) interaction of PAp × performance-avoidance (PAv) goals on attitude towards cooperative learning.

Socially regulated learning

Step 1 yielded a significant overall effect, $F(11, 343) = 30.64, p < .001, R^2 = .50$. In this model, MAp ($\beta = .34, p < .001$), PAp ($\beta = .36, p < .001$), SDev ($\beta = .15, p < .001$), and SDAv ($\beta = .10, p < .05$) emerged as positive predictors. The entry of interaction terms did not significantly increase $R^2, \Delta F(21, 322) = 0.87, p > .05$, and none of the interactive effects was significant.

Self-regulated learning

Step 1 resulted in a significant overall effect, $F(11, 343) = 28.18, p < .001, R^2 = .48$. MAp ($\beta = .33, p < .001$), PAp ($\beta = .26, p < .001$), and SDev ($\beta = .36, p < .001$) emerged as positive predictors, whereas SDAp ($\beta = -.15, p < .01$) emerged as a negative predictor. The entry of interaction terms in Step 2 significantly increased $R^2, \Delta F(21, 322) = 1.70, p < .05$. However, none of the interaction effects was significant.

Discussion

The current study examined the joint effects of academic and social achievement goals on a wide range of school functioning indicators in a sample of Indonesian high-school students. Findings showed academic and social achievement goals had independent main effects on seven of the eight outcomes studied, including academic effort/persistence,

peer relationship satisfaction, perceived loneliness, attitudes towards cooperative and competitive learning, and socially regulated and self-regulated learning. These findings support the additive-effect prediction (Hypothesis 2). Academic performance was predicted only by academic achievement goals, providing support for the specialized-effect prediction (Hypothesis 1). One cross-domain interactive effect involving PAp and SDev was found on cooperative learning, supporting the interactive-effect prediction (Hypothesis 3). In addition, a within-domain interactive effect between PAp and PAv on cooperative learning was revealed. Taken together, the findings highlight the importance of considering both academic and social achievement goals in students' school functioning. Key findings, interpretations, and their theoretical implications are discussed.

Additive effects

Findings showed the positive effects of SDev, SDAP, and MAP on peer relationship satisfaction. This suggests that having the goals of developing social competence and gaining social approval may regulate students to interact with peers in ways that lead them to be socially accepted which in turn make them feel more satisfied in their peer relationships. The positive effect of MAP on peer relationship satisfaction suggests that students aiming to develop their academic skills experience heightened satisfaction in their peer interactions perhaps because the interactions provide them an indirect platform for academic skill development.

SDev and MAV negatively and positively, respectively, predicted loneliness. Whilst the negative effect of SDev replicated prior research (Mouratidis & Sideridis, 2009), the positive effect of MAV on loneliness indicates that students with the fear of not learning optimally are those likely to feel lonely. The latter association may have been due to the negative emotional loads (e.g., fear, worry) shared by the construct of loneliness and the construct of MAV operationalized in the AGQ (Elliot & McGregor, 2001) administered in this study. This association might not be observed when MAV is measured by the AGQ-Revised (Elliot & Murayama, 2008) in which affective components of the achievement goal constructs are removed. Future studies should clarify this.

Mastery-approach and PAp bore independent effects on both socially regulated and self-regulated learning. This result shows the two approach-based academic goals may be pursued through academic regulations (e.g., setting goals, deciding strategies to achieve the goals, and evaluating learning progress) determined by both students' significant others and the students themselves. This finding extends the current literature on self-regulated learning, which primarily emphasizes students' autonomy and control over their own learning (Zimmerman, 2008), by showing that the two academic goals can also be attained through both self-regulated and socially regulated learning. Insofar as this finding is specific to the current sample or generalizable to students in other collectivistic societies and even individualistic cultures, socially regulated learning is an area worthy of future research.

Given the focus on social skills development, it is interesting to find that SDev positively predicted both types of learning regulation. The positive effect of SDev on self-regulated learning may suggest that, as learning about one's self through social interactions is one of the key goals pursued by students with SDev (Ryan & Shim, 2006), the enhanced understanding of one's self resulting from this pursuit may help students better regulate their learning. The positive effect of SDev on socially regulated learning may indicate that deferring to social expectations, including those in learning,

could be part of the culturally desirable social competence in a collectivistic society emphasizing conformity and social harmony like Indonesia.

Whilst SDAv positively predicted socially regulated learning, SDap negatively predicted self-regulated learning. This perhaps shows that SDAv orients students to avoid social conflicts and drives them to conform to social expectations in their learning, and SDap focuses students on gaining social acceptance which distracts them from their learning regulation. The negative effect of SDap on academic effort/persistence provides similar evidence that SDap may sidetrack students from learning.

Mastery-approach, PAp, PAv (negatively), and SDev independently contributed to the prediction of cooperative learning, suggesting that whilst cooperative learning is seen by students as an opportunity to develop academic and social skills and to see how well they perform compared to others in the group, cooperative learning is not seen favourably when students fear to look less competent. Competitive learning, however, was predicted by a different set of predictors, that is PAp, MAp, MAV (negatively), SDap, and SDAv. This perhaps shows that studying to perform better than others is not only viewed by students as a way to pursue the goals of looking academically more superior than others, but also as opportunities to use others' performance as a benchmark of their own academic skill development, to be socially popular, and even to avoid others' unfavourable judgment of their social competence. With regard to SDAv, it might also be that students seek to do well academically to compensate their perceived lack of social skills (i.e., a compensating relation of goals; Dowson & McInerney, 2003). Lastly, it is important to note that the wording of PAp and competitive learning items was similar and this may have inflated the correlation between the two constructs. This measurement issue needs to be considered when interpreting the finding.

Interactive effects

A cross-domain interactive effect shows that students high on both PAp and SDev are also those with the most positive attitude towards cooperative learning (Figure 1a). This suggests that students may see Cooperative learning as an opportunity for them to develop social skills and also to gain academically such that they can perform better than others. Another interactive effect shows that adopting high PAv has a deleterious effect on cooperative learning when PAp is low (Figure 1b). This pattern seems to relate to the role of perceived competence. It is reasonable to predict that students low on PAp and high on PAv are also those with the lowest perceived competence. Insofar as this is the case, their poor perceived competence may lead them to see Cooperative learning less favourably due to the fear of looking incompetent and the perceived lack of capacity to contribute during the group learning process.

Specialized effect

Academic performance was predicted only by academic goals, with PAp positively and MAV and PAv negatively predicting this outcome. This finding is consistent with prior findings from Western studies (Linnenbrink-Garcia *et al.*, 2008). However, MAp failed to predict achievement. As discussed by Senko *et al.* (2011), the prediction of achievement by MAp is stronger when the adoption of the goals is undergirded by a pure desire for improvement rather than social motives (e.g., to please others), or when the MAp items focus on interest and curiosity than when goal-relevant language is used in the items which was the case in this study (Elliot & McGregor, 2001). Further, Senko and Miles

(2008) found that mastery-oriented students are often motivated by the pursuit of their own 'learning agenda' (i.e., fulfilling their interests without paying too much attention to the learning material to be tested). The non-significant effect of MAP could be attributed to these possible reasons.

The specialized effect of academic achievement goals does not mean that the process of pursuing achievement is merely an academic (and non-social) endeavour. Indeed, school functioning is inherently academic and social. As shown in this study, the majority of the school functioning outcomes were predicted by both academic and social goals. Thus, it might be that academic achievement is a distal outcome of social achievement goals and that the effects of social achievement goals on academic achievement are mediated by academic, social, and socio-academic functioning such as those examined in this study (see King *et al.*, 2012). Consistent with the hierarchical model (Wentzel, 2000), academic achievement goals may also mediate the links between social achievement goals and academic achievement. These potential mediational links should be clarified in future research.

Considering cultural contexts of the effects of goals

Findings relevant to the effects of academic goals attested to the adaptive role of MAP and PAP relative to MAV and PAV. This mirrors the patterns of goal effects typically found in the West (Linnenbrink-Garcia *et al.*, 2008). Although the social achievement goal framework and its measure (Ryan & Shim, 2006) are transferrable to explain social goals of Indonesian adolescents, findings indicated a potentially culture-specific finding. Whilst the adaptive effects of SDev and both the adaptive and detrimental effects of SDAP found here resemble prior findings based on Western samples (e.g., Shim & Finch, 2014), the role of SDAV in this study was not inimical as shown in its positive effects on competitive and socially regulated learning. This latter finding is consistent with a study by Elliot, Chirkov, Kim, and Sheldon (2001) who found avoidance goals may not always be detrimental for the motivational processes of people in collectivistic countries. As SDAV pertains to the goals of avoiding negative social judgments about social skills, pursuing SDAV may orient them to 'fit into' the group which may be performed by conforming to the norms that is fundamental to smooth interpersonal functioning in collectivistic societies. This then raises a question, 'May social competence as an end-state purpose of the pursuit of social achievement goals have different meanings to people in different cultures?' It may be that conformity is an attribute of particular importance in collectivistic societies and hence is a social propensity that individuals aim to develop in these societies. In contrast, assertiveness and autonomy are more relevant to social functioning in individualistic cultures and thus become personal characteristics that individuals seek to acquire in these cultures. Future research is needed to shed light on culture-specific and culture-universal meanings of academic and social achievement goals, their corresponding competence-related purposes, and their joint interplay in school functioning (King & McInerney, 2014).

Limitations

Although the present study has lent further understanding of the role of academic and social goals in school functioning, several limitations should be noted when interpreting findings. First, although evidence for the hierarchical model was found (Wentzel, 2000), the current study was not designed to directly test the model. In assessing the relative

effects of PAP and the reasons underlying the PAP adoption, Vansteenkiste *et al.* (2010) measured the reasons by directly asking why students pursued this goal (e.g., 'Because I find this a highly stimulating and challenging goal'). This measurement looks to be a viable approach to conducting more direct tests of the hierarchical relationships between academic and social goals. Second, the study was based on a cross-sectional design with a small sample derived from only one school and relied on self-report measures (apart from academic achievement). Future research should examine goals from different sources such as parents, teachers, and peers; use different methodological perspectives such as interviews or sociometric; track the same students over time; and draw a larger sample of students from culturally diverse educational systems. These recommendations can potentially be fruitful in enhancing the understanding of the complex link between culture and academic motivation.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- 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. doi:10.1037/0022-3514.80.5.706
- 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.
- Elliot, A. J. (2006). The hierarchical model of approach-avoidance motivation. *Motivation and Emotion, 30*, 111–116. doi:10.1007/s11031-006-9028-7
- Elliot, A. J., Chirkov, V. I., Kim, Y., & Sheldon, K. M. (2001). A cross-cultural analysis of avoidance (relative to approach) personal goals. *Psychological Science, 12*, 505–510.
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology, 30*, 957–971. doi:10.1037/0022-3514.80.3.501
- Elliot, A. J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*, 613–628.
- Harackiewicz, J. M., & Linnenbrink, E. A. (2005). Multiple achievement goals and multiple pathways for learning: The agenda and impact of Paul R. Pintrich. *Educational Psychologist, 40*, 75–84. doi:10.1207/s15326985ep4002_2
- Hulleman, C. S., Schrager, 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. doi:10.1037/a0018947
- Johnson, D. W., & Norem-Hebeisen, A. A. (1979). A measure of cooperative, competitive, and individualistic attitudes. *The Journal of Social Psychology, 109*, 253–261.
- King, R. B., & McInerney, D. M. (2014). Culture's consequences on student motivation: Capturing cross-cultural universality and variability through personal investment theory. *Educational Psychologist, 49*, 175–198. doi:10.1080/00461520.2014.926813
- 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. doi:10.1080/01443410.2012.730479
- Levy, I., Kaplan, A., & Patrick, H. (2004). Early adolescents' achievement goals, social status, and attitudes towards cooperation with peers. *Social Psychology of Education, 7*, 127–159.
- Liem, G. A. D., & Kennedy, K. J. (in press). Democracy and young people's individual beliefs: Beyond democratic institutions in Indonesia. In M. Klicperova-Baker (Ed.), *Humanism and democracy across borders of countries and disciplines*. San Diego, CA: San Diego University Press.

- Liem, A. D., Lau, S., & Nie, Y. (2008). The role of self-efficacy, task value, and achievement goals in predicting learning strategies, task disengagement, peer relationship and English achievement outcome. *Contemporary Educational Psychology*, *33*, 486–512.
- Liem, G. A. D., & Martin, A. J. (2011). Peer relationships and adolescents' academic and non-academic outcomes: Same-sex and opposite-sex peer effects and the mediating role of school engagement. *British Journal of Educational Psychology*, *81*, 183–206. doi:10.1111/j.2044-8279.2010.02013.x
- Liem, G. A. D., Martin, A. J., Porter, A., & Colmar, S. (2012). Sociocultural antecedents of achievement motivation and achievement: The role of values and achievement motives in achievement goals and academic performance. *Asian Journal of Social Psychology*, *15*, 1–13. doi:10.1111/j.1467-839X.2011.01351.x
- Linnenbrink-Garcia, L., Tyson, D. F., & Patall, E. A. (2008). When are achievement goal orientations beneficial for academic achievement? A closer look at moderating factors. *International Review of Social Psychology*, *21*, 19–70.
- Mouratidis, A., & Sideridis, G. (2009). On social achievement goals: Their relations with peer acceptance, classroom belongingness, and perceptions of loneliness. *The Journal of Experimental Education*, *77*, 285–307.
- Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology*, *92*, 544–555. doi:10.1037/0022-0663.92.3.544
- Pintrich, P. R., & De Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, *82*, 33–50.
- Pintrich, P. R., Zusho, A., Schiefele, U., & Pekrun, R. (2001). Goal orientation and self-regulated learning in the college classroom: A cross-cultural comparison. In F. Salili, C.-Y. Chiu & Y.-Y. Hong (Eds.), *Student motivation: The culture and context of learning* (pp. 140–169). New York, NY: Plenum.
- Poortvliet, P. M., & Darnon, C. (2014). Understanding positive attitudes toward helping peers: The role of mastery goals and academic efficacy. *Self and Identity*, *13*, 345–363. doi:10.1080/15298868.2013.832363
- Poortvliet, P. M., & Giebels, E. (2012). Self-improvement and cooperation: How exchange relationships promote mastery-approach driven individuals' job outcomes. *European Journal of Work and Organizational Psychology*, *21*, 392–425. doi:10.1080/1359432X.2011.555080
- Ryan, A. M., & Shim, S. S. (2006). Social achievement goals: The nature and consequences of different orientations toward social competence. *Personality and Social Psychology Bulletin*, *32*, 1246–1263. doi:10.1177/0146167206289345
- Ryan, A. M., & Shim, S. S. (2008). An exploration of young adolescents' social achievement goals and social adjustment in middle school. *Journal of Educational Psychology*, *100*, 672–687. doi:10.1037/0022-0663.100.3.672
- Ryff, C. D., & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*, 719–727.
- Schunk, D. H., Meece, J. L., & Pintrich, P. R. (2014). *Motivation in education: Theory, research, and applications* (4th ed.). Upper Saddle River, NJ: Pearson.
- 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. doi:10.1080/00461520.2011.538646
- Senko, C., & Miles, K. M. (2008). Pursuing their own learning agenda: How mastery-oriented students' jeopardize their class performance. *Contemporary Educational Psychology*, *33*, 561–583. doi:10.1016/j.cedpsych.2007.12.001
- Shim, S. S., & Finch, W. F. (2014). Academic and social achievement goals and early adolescents' adjustment: A latent class approach. *Learning and Individual Differences*, *30*, 98–105. doi:10.1016/j.lindif.2013.10.015
- van de Vijver, F. J. R., & Hambleton, R. K. (1996). Translating tests: Some practical guidelines. *European Psychologist*, *1*, 89–99. doi:10.1027/1016-9040.1.2.89

- Vansteenkiste, M., Smeets, S., Soenens, B., Lens, W., Matos, L., & Deci, E. L. (2010). Autonomous and controlled regulation of performance-approach goals: Their relations to perfectionism and educational outcomes. *Motivation and Emotion*, *34*, 333–353. doi:10.1007/s11031-010-9188-3
- Walker, C. O., Winn, T. D., & Lutfjens, R. M. (2012). Examining relationships between academic and social achievement goals and routes to happiness. *Education Research International*, *1*, 1–7. doi:10.1155/2012/643438
- Wentzel, K. R. (1991). Social competence at school: Relations between social responsibility and academic achievement. *Review of Educational Research*, *61*, 1–24. doi:10.3102/00346543061001001
- Wentzel, K. R. (2000). What is it that I'm trying to achieve? Classroom goals from a content perspective. *Contemporary Educational Psychology*, *25*, 105–115. doi:10.1006/ceps.1999.1021
- Wolters, C., Yu, S., & Pintrich, P. R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences*, *8*, 211–238.
- Yu, A. B., & Yang, K. S. (1994). The nature of achievement motivation in collectivist societies. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi & G. Yoon (Eds.), *Individualism and collectivism: Theory, methods, and applications* (pp. 239–250). London, UK: Sage.
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, *45*, 166–183. doi:10.3102/0002831207312909

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