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Toward a Positive Psychology of Academic Motivation

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ABSTRACT **The purpose of this study was to integrate constructs from positive psychology with constructs from motivation theories that have received most of the attention in studies of academic motivation. Achievement goals, expectancy beliefs, and value were predictive of the positive psychology variables. Task goals were associated positively with optimism and with invitations, whereas performance-avoid goals were associated negatively with optimism and perceived authenticity. Expectancy and value constructs were associated positively with optimism, perceived authenticity, and invitations. Positive psychology variables were stronger in high-achieving students than in low-achieving students; boys had stronger perceived authenticity than girls did. Findings indicate that constructs drawn from positive psychology can help explain academic motivation and achievement.**

Key words: achievement goals, motivation, optimism, positive psychology, self-efficacy

During the first half of the 20th century, psychologists who held either a behaviorist or psychoanalytic perspective were the dominant forces in American psychology. Apprehensive about what they considered the passive view of human functioning that behaviorism represented and dissatisfied with the focus on abnormality that characterized psychoanalytic interests, a third group of psychologists called for attention to inner experience, internal processes, adaptive functioning, positive life influences, and self-constructs. The writings of those theorists caught the attention of scholars and researchers, and, during the 1950s, the humanistic movement was born. The most powerful voice in the new movement was that of Maslow (1943, 1954), who proposed a dynamic theory of motivation in which internal and intrinsic motivating forces and affective processes lead to personal, social, and academic well-being. This was a view of academic functioning in which subjective experiences and positive attitudes play a prominent role.

Although widespread, the influence of humanistic psychology on education was erratic. The emphasis on self-processes encouraged a personal and cultural self-absorption that minimized the importance of collective well-being (Seligman & Csikszentmihalyi, 2000b). Moreover, the gap from theory to practice proved difficult to breach, and many laudable but misguided efforts to nurture the self-esteem of children fell prey to excesses and, ultimately, ridicule (Purkey, 2000). The goal of focusing on and fostering positive self-perceptions became mired in controversies over the value of self-processes in education—controversies that continue unabated to this day (see Kohn, 1994). Because research efforts were unsystematic and results were highly inconsistent, the tenets of humanistic psychology did not develop an empirical base (Pajares & Schunk, in press; Seligman & Csikszentmihalyi, 2000b). As a consequence, the humanistic movement waned during the 1980s as psychologists shifted their interest to cognitive processes and information-processing views of human functioning.

Recently, however, there has been another vigorous call within the discipline for a science of psychology grounded on positive experience (Bandura, 1998; Gilham & Seligman, 1999; Seligman & Csikszentmihalyi, 2000a; Vaillant, 2000). This *positive* psychology has been described as the study of human strengths and optimal functioning, and one of its key aims is to foster research on the positive personal traits and dispositions that are thought to contribute to subjective well-being and psychological health. Such research stands in contrast to the traditional study of people's distress, pathology, and maladaptive functioning that continues to characterize American psychology. Moreover, although positive psychology shares with the humanistic movement the aim of advancing human fulfillment, one of the key aims of positive psychology is that its methodology should be grounded firmly in systematic and scientific inquiry (Myers, 2001).

The American Psychological Association (APA) has embraced positive psychology's approach to the study of optimal human functioning by making its first 2000 edition of the *American Psychologist* a theme issue on positive psychology constructs (Seligman & Csikszentmihalyi, 2000a). In the area of education, researchers hope that insights available from investigations that emphasize a positive psy-

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chology will alter the present focus of drawing inferences about adaptive functioning from students who are at risk or unmotivated to those who are resilient and resourceful (Bandura, 1998). For example, positive psychology seeks to shift the emphasis from research frequently conducted on concepts such as learned helplessness to the study of learned optimism and perseverance (Seligman & Csikszentmihalyi, 2000b). To these ends, the new researchers urge that positive psychology constructs be integrated with those of traditional and established bodies of educational literature and lines of inquiry.

One of positive psychology's signature constructs is *optimism,* which is typically defined as holding a view of life events and situations that is characterized by positive thinking and maintaining a positive attitude toward the future (Peterson, 2000; Scheier & Carver, 1985, 1992; Seligman, 1991). Although optimism has received attention from social and personality psychologists who reported that it exercises a positive influence on human functioning, researchers have made few connections between this construct and either educational psychology or academic motivation. There is scant mention of optimism in the field's most popular motivation texts (e.g., Alderman, 1999; Brophy, 1998; Pintrich & Schunk, 1997; Stipek, 1998). Optimism warrants only three paragraphs in the 1,000-plus pages of the *Handbook of Educational Psychology* (Berliner & Calfee, 1996). Despite the neglect, researchers have found that possessing an optimistic explanatory style is related to adaptive academic benefits, including academic achievement, positive goal orientation, and use of learning strategies, whereas a pessimistic explanatory style is associated with negative outcomes and with learned helplessness (Buchanan & Seligman, 1995; Peterson, 1990; Seligman, 1991).

A second essential construct of a positive psychology that has received limited attention in motivation research centers on individuals' feelings of authenticity—the belief that one's achievements and attainments are deserved and that others recognize these achievements as being merited. The flip side of this belief has been called the *impostor syndrome,* the *impostor phenomenon,* or *perceived fraudulence,* defined as "a psychological syndrome or pattern based upon intense, secret feelings of fraudulence in the face of achievement tasks and situations" (Harvey & Katz, 1985, p. 3). Although perceived authenticity has special relevance to school settings, researchers have focused primarily on the areas of social and personality psychology (and especially business; see Fried-Buchalter, 1997). According to investigations conducted primarily with college students or adults, feelings of "inauthenticity" are often felt by high-achieving individuals, especially high-achieving girls (Clance, 1985). As has pessimism, the illusion of incompetence has been found to be associated with depression and anxiety (Kolligian & Sternberg, 1991) and with interpersonal inflexibility (Hayes & Davis, 1993).

A third construct provided by positive psychology theorists is grounded in invitational theory, which can be traced to a perceptual tradition in psychology maintaining that the beliefs persons develop about themselves and about others help form the perceptual lens through which they view the world and interpret new experiences (Purkey, 2000; Purkey & Novak, 1996). According to invitational theory, the messages that people send and receive play an important role in creating the beliefs that they develop, for it is these messages that often constitute the bridge on which perception, interpretation, and meaning travel (Valiante & Pajares, 1999). Theorists contend that people can intentionally send uplifting and empowering messages to themselves and others, and they define the *sending of invitations* as a process by which people are summoned to realize their own potential and to enhance the potential of others (Purkey & Novak, 1996). Positive invitations convey the message that people are able, valuable, responsible, and forgiving; negative invitations indicate that people are not valued and that they are incapable of participating positively in their own development.

Various mainstream motivation theories posit connections between academic motivation and the potential benefits that can accrue from optimistic beliefs, perceived authenticity, and invitations. One of the posited connections comes from a large body of research that has examined students' achievement goals, which are the reasons that students provide for engaging in academic tasks and activities. Students with a task-goal orientation engage in their academic work to master the material and ideas and seek academic challenge. For those students, learning is an end in itself. Students who hold a performance-approach goal orientation want to do better than their classmates so they will be recognized as competent by their peers, teachers, and parents. Students who hold a performance-avoid goal orientation do their academic work primarily because they fear appearing incompetent.

Researchers typically report that having a task-goal orientation has motivational benefits, whereas having a performance-avoid goal orientation can be detrimental (Urdan, 1997). Task goals are related positively to attributions of success to effort and persistence in the face of difficulty (both are components of optimism). Performance goals have been shown to be related to lack of persistence and to attributions of failure to lack of ability (a pessimistic view). Researchers have not established an empirical connection between achievement goals and positive psychology constructs. However, one can posit logically that students whose main reason for doing their academic work is grounded in fear of failure should be more likely to view their academic outcomes with pessimism and with a greater sense of inauthenticity. It also seems reasonable to posit that students who engage in academic work for intrinsic reasons should be more inviting and forgiving of themselves and of others than should students whose academic efforts are based on the sought approval or fear of disapproval from others.

A second body of motivation research that posits connections to the positive psychology constructs has focused on the expectancy and value beliefs that students hold about their academic work. *Expectancy beliefs* are judgments of capability to attain designated types of performances. Those beliefs that have received the bulk of attention in academic motivation studies have been self-concept (Marsh, 1990; Skaalvik, 1997), self-efficacy (Pajares, 1996; Schunk, 1991), and confidence to use self-regulatory practices (Zimmerman, 1989; Zimmerman & Schunk, 1989). A student's academic self-concept represents a composite view of him or herself as a student, a view formed through experience and feedback from others. The construct of self-efficacy is drawn from Bandura's (1986) social cognitive theory, and *academic self-efficacy beliefs* are defined as judgments of capability to succeed in academic pursuits. The key difference between the two constructs is that academic self-concept beliefs focus primarily on the feelings of *self-worth* associated with being a student, whereas academic self-efficacy centers on the *confidence* that students have to succeed in school. Students also possess judgments of their capability to use various self-regulated learning strategies required to accomplish academic work. This self-efficacy for self-regulated learning includes confidence judgments regarding how well students can motivate themselves to do schoolwork, finish their homework on time, or remember information presented in class or in their school books. In studies of academic motivation, *value* is defined in terms of students' perceived importance of, interest in, and enjoyment of school or an academic domain (Eccles, 1983).

Researchers with a self-concept or self-efficacy theoretical orientation would agree with invitational theorists that students' academic self-beliefs are created and developed, in part, by the messages—the invitations and "disinvitations"—that students send and receive (Bandura, 1997; Eccles, 1983; Marsh, 1990). For example, researchers have noted the conceptual relationship between invitations and self-concept—invitational theory and self-concept theory each grew out of the perceptual tradition in psychology (Purkey & Novak, 1996; Wiemer & Purkey, 1994). As regards self-efficacy, Pajares and Zeldin (1999) investigated the relationship between invitational messages and the sources of the self-efficacy beliefs of women with careers in mathematics, science, or technology. They found that the invitations the women reported receiving were important in their initial choice to pursue nontraditional careers and also formed the self-beliefs that nurtured the effort, persistence, and resilience required to overcome personal, social, and academic obstacles. The invitations from others that the women received early in their development reemerged at later points in their lives as self-invitations. Those findings support the contention of invitational theorists that significant others play a powerful role in the academic beliefs that students come to develop about themselves. Pajares (1994) suggested that the tenets of self-efficacy theory, self-concept theory, and invitational theory complement each other, and he provided a model showing the hypothesized relationship between efficacy beliefs and invitations.

Theorists also have posited that students who value a domain and hold positive expectancy beliefs about their own competence, feelings of self-worth, and confidence in their self-regulatory strategies engage academic tasks with greater optimism than do students who devalue academics or doubt their abilities (e.g., Bandura, 1997; Eccles, 1983). Positive psychology theorists also would assert that there is a clear connection between expectancy beliefs, the belief that competence is authentic, and the tendency to be self- and other-inviting (Purkey, 2000; Seligman & Csikszentmihalyi, 2000b).

Although various motivation theories posit connections between academic motivation and constructs drawn from positive psychology, these constructs have not been included in studies of academic motivation. The purpose of the present study was to integrate the constructs from positive psychology with those that have received the bulk of research attention in the area of academic motivation. I sought to determine the degree to which each of the three types of achievement goals and each of the four types of expectancy-value constructs makes an independent contribution to the prediction of optimism, authenticity, and invitations in hierarchical regression models, controlling for previous academic achievement, gender, and age (see Middleton & Midgley, 1997; Pajares, Miller, & Johnson, 1999, for similar analyses in studies of academic motivation). I also was interested in testing the connection between the positive psychology variables and academic achievement, as well as the contention that high-achieving individuals, especially high-achieving girls, are especially susceptible to experiencing feelings of inauthenticity.

Participants and Data Source

Participants were 529 students in a public middle school in the Northeast (255 girls, 274 boys; 171 in Grade 6, 176 in Grade 7, 182 in Grade 8). The socioeconomic status of the school and of the area that the school served was largely middle class and students were primarily Caucasian. Students' ages ranged from 11 to 16 years. Instruments were group administered in individual classes during one period. All items were read aloud by the administrator. The study took place during the second semester of the academic year. The motivation variables were assessed with scales that have been used extensively in various studies. The teachers provided the students' grade point average in language arts and mathematics from the semester preceding the study. The averages were used as the GPA measure of academic achievement.

Achievement goals were assessed using a scale derived from the Patterns of Adaptive Learning Survey (PALS; Middleton & Midgley, 1997; Midgley et al., 1996) and adapted to reflect goals toward success in school. Task goals were assessed with 5 items (I like school assignments that

really make me think); approach goals with 5 items (I want to do better than other students in my school); and avoid goals with 6 items (I do my school assignments so others in the class won't think I'm dumb). Students responded on a 6-point, Likert-type scale ranging from 1 (*definitely false*) to 6 (*definitely true*). In previous studies, the three types of goals loaded on separate factors with significant loadings ranging from .68 to .87 (Middleton & Midgley, 1997; Pajares, Britner, & Valiante, 2000). Alpha coefficients have ranged from .77 to .89 (Middleton & Midgley, 1997; Pajares et al., in press). In this study, Cronbach's alpha was .86 for task goals, .80 for approach goals, and .83 for avoid goals.

The *Academic Self-Efficacy* scale was drawn from Bandura's Children's Multidimensional Self-Efficacy Scale (see Zimmerman, Bandura, & Martinez-Pons, 1992), which assesses students' judgments of their capability to learn academic subjects and skills. Using a Likert-type scale that ranged from 1 (*not well at all*) to 6 (*extremely well*), students responded to questions that asked how well they believed they could learn mathematics, reading, and writing skills. Alpha coefficients ranging from .70 to .85 have been reported previously (Valiante & Pajares, 1999; Zimmerman & Bandura, 1994; Zimmerman et al., 1992). The higher coefficients have been reported with samples of college undergraduates. The coefficient for this study was .69. The modest reliability is not surprising, given that the self-efficacy assessment is the composite score of students' judgment that they can learn in academic areas in which they may view their capabilities differently. For example, some students may have great confidence that they can learn well in language arts courses but little confidence of their capabilities in mathematics.

Academic self-concept was assessed with 6 items from Marsh's (1990) Academic Self-Description Questionnaire that were transformed from subject-specific content into general academic content. For instance, an item such as "I get good grades in mathematics" was changed to "I get good grades in school." Students responded on a 6-point, Likert-type scale ranging from *definitely false* to *definitely true*. Reliability estimates for the self-concept instrument in various academic areas have ranged from .86 to .94 (Marsh, 1990; Pajares & Valiante, 1997, 1999; Skaalvik, 1997; Valiante & Pajares, 1999). The reliability estimate for the present study was .83.

The *Self-Efficacy for Self-Regulated Learning* scale is also a subscale from Bandura's Children's Multidimensional Self-Efficacy Scale that assesses student's judgments of their capability to use various self-regulated learning strategies. As with the Academic Self-Efficacy scale, students were asked to respond on a 6-point, Likert-type scale to items such as "How well can you motivate yourself to do schoolwork?" and "How well can you finish your homework on time?" A validation study by Zimmerman and Martinez-Pons (1988) revealed that a single factor underlay the items. Cronbach's alpha values ranging from .80 to .87 have been reported by Pajares and Graham (1999); Pajares and Valiante (1997, 1998); Valiante and Pajares (1999), Zimmerman and Bandura (1994), Zimmerman and Martinez-Pons (1988), and Zimmerman et al. (1992). The alpha value for this study was .81.

The degree to which students valued school was measured with 5 items assessing three indexes that contribute to perceived value of a domain: importance, interest, and enjoyment (see Eccles, 1983; Meece, Wigfield, & Eccles, 1990; Seegers & Boekaerts, 1996). Students were asked to rate how true or false statements were on a 6-point, Likert-type scale. (A sample item for importance was "It is important to me to get good grades in school"; for enjoyment, "I enjoy school"; for interest, "My schoolwork is interesting for me"). Researchers have reported alpha coefficients ranging from .69 to .92 when value has been assessed relative to a specific subject area or to school in general (Pajares & Graham, 1999; Pajares & Valiante, 1997, 1999; Valiante & Pajares, 1999). The alpha coefficient for this study was .89.

The Optimism Scale consisted of 12 items drawn from the Life Orientation Test, which is used extensively in the area of social and personality psychology (Scheier & Carver, 1985). Six of the items were worded positively and 6 items were worded negatively (e.g., "I'm always optimistic about my future"; "If something can go wrong for me, it will go wrong"). Because the scale has not been used in studies of academic motivation, I conducted exploratory factor analysis using the maximum likelihood method of extraction (Jöreskog & Lawley, 1968), a method believed to produce the best parameter estimates (Pedhazur, 1982). Criteria to determine the number of common factors to retain and analyze were Cattell's (1966) scree test; the percentage of common variance explained by each factor using the weighted, reduced correlation matrix; and the interpretability of the rotated factors. Because any factors that emerged from the analyses were expected to be intercorrelated, I used the oblimin method of oblique rotation. Results revealed that two factors underlay the items; they reflected the positive and negative wording. Factor structure coefficients from the rotated pattern matrix ranged from .49 to .75. Factor structure coefficients demonstrate the relationship between an item and a factor when holding all other items constant. Factor structure coefficients of .40 or higher were considered strong enough to demonstrate that the item indicated the common factor. Cronbach's alpha coefficient was .83.

Perceived authenticity was measured with a scale consisting of 5 items drawn from Clance's (1985) and Harvey and Katz's (1985) scales assessing inauthenticity and the impostor syndrome (e.g., "Sometimes I'm afraid other people will discover that I'm not very smart"). Reverse scoring of the items provides a measure of perceived authenticity. Because the scale has not been used in studies of academic motivation, I again conducted exploratory factor analysis using the procedures outlined in the previous paragraphs.

Results revealed that one factor underlay the items. Factor structure coefficients ranged from .42 to .83; Cronbach's alpha coefficient was .72.

Invitations of self and others were assessed with the Inviting/Disinviting Index-Revised (IDI), which consists of two subscales representing the degree to which individuals are inviting to themselves (e.g., "I pay attention to my own needs") or to others (e.g., "I like to include other people in enjoyable activities") (Schmidt, Shields, & Ciechalski, 1998; Valiante & Pajares, 1999; Wiemer & Purkey, 1994). Students responded on a 7-point, Likert-type scale that ranged from 1 (*never*) to 7 (*always*). In previous studies, test-retest reliability has ranged from .68 to .83 for the scales of the original IDI (Wiemer & Purkey, 1994) and .41 to .72 for those of adapted versions (Schmidt et al., 1998; Valiante & Pajares, 1999). Exploratory factor analysis results revealed that one factor reflecting inviting self and a second factor reflecting inviting others underlay the items. Factor structure coefficients ranged from .53 to .76. Cronbach's alpha coefficient for the present study was .81 for the inviting self scale and .76 for the inviting others scale.

Results and Discussion

Table 1 provides means and correlations for the variables in the study. Correlations among the motivation constructs were consistent with those of previous investigations, although that between self-efficacy and self-concept was higher than typically found (r = .67). That result likely was due to the domain similarity of the assessments. In previous studies, self-efficacy typically was assessed at the task level, that is, in terms of students' confidence that they could accomplish specific academic tasks (such as writing essays or solving mathematics problems). Self-concept is assessed typically at the domain level, in terms of students' feelings of self-worth in academic areas. In the present study, I assessed self-efficacy at the academic domain level, that is, the composite score of students' confidence to succeed in their academic courses. Self-concept also was assessed at the academic domain level in terms of students' self-concept beliefs related to school in general. Note that academic achievement was correlated positively both with the positive psychology variables and with the motivation variables.

I conducted hierarchical regressions to determine the influence of the achievement goals and of the expectancy-value constructs on each of the positive psychology variables. Because achievement goals and expectancy-value beliefs represent differing theoretical frameworks, they were kept separate in the regression models predicting the positive psychology variables. Academic achievement (GPA), gender, and age were included at the first step. To determine the influence of the achievement goals, I added these at the second step. To determine the influence of the expectancy-value variables, I removed the achievement goals and included the expectancy-value constructs at the third step. Consistent with typical findings, the motivation variables were highly correlated (see Table 1). Consequently, I supplemented beta values for achievement goals and expectancy value variables with regression structure coefficients, which are not suppressed or inflated by collinearity (Thompson & Borello, 1985). (See Table 2 for the results.)

Each of the models testing the influence of achievement goals added a significant proportion of the variance to the positive psychology variables. A task-goal orientation was associated positively with optimism (β = .399), with being inviting to oneself (β = .433), and with inviting others (β = .431). Conversely, a performance-avoid orientation was associated negatively with optimism (β = −.209) and with

Table 1.—Means, Standard Deviations, and Zero-Order Correlations for Variables in the Study

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. Optimism	4.0	0.8	—											
2. Authenticity	2.7	1.1	.30***	—										
3. Inviting self	4.5	1.0	.46***	−.01	—									
4. Inviting others	4.6	0.8	.39***	−.03	.53***	—								
5. Task goals	3.9	1.2	.39***	−.08	.47***	.47***	—							
6. Performance-approach	3.9	1.2	.10*	−.28***	.28***	.19***	.40***	—						
7. Performance-avoid	3.2	1.2	−.11*	−.49***	.14*	.05	−.18***	.57***	—					
8. Self-efficacy	4.6	0.9	.38***	.25***	.33***	.29***	.41***	.12*	−.10*	—				
9. Self-concept	4.5	0.9	.41***	.24***	.35***	.35***	.44***	.17***	−.07	.67***	—			
10. Self-regulation	4.3	0.9	.43***	.16**	.44***	.43***	.59***	.19***	−.05	.73***	.67***	—		
11. Value	3.5	1.2	.36***	−.07	.35***	.41***	.72***	.27***	.03	.34***	.42***	.53***	—	
12. GPA	2.9	0.8	.16**	.17***	.13*	.11*	.16**	.04	−.04	.47***	.55***	.39***	.18***	—
13. Gender	—	—	−.01	.09*	.02	−.20***	−.13*	.07	.02	.01	−.10*	−.08	−.17***	−.10*
14. Age	12.6	1.1	−.04	.08	−.10*	−.01	−.09*	−.09*	−.08	−.10*	−.03	−.10*	−.10*	−.09*

Note. For gender, girls were coded −1 and boys were coded 1. Means for the motivation and positive psychology variables reflect the 6 points of the Likert-type scale. GPA scores ranged from 0 (F) to 4 (A). N = 529.
*p < .05. **p < .001. ***p < .0001.

Table 2.—Hierarchical Regression Analyses for Optimism, Authenticity, and Invitations—Beta Values and Structure Coefficients

	Optimism			Authenticity			Inviting self			Inviting others		
Variables in equation	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Prior achievement	.15**	.08*	−.11**	.19***	.17***	.02	.12**	.06	−.09	.09*	.02	−.12*
Gender	.01	.06	.04	.10*	.11**	.06	.03	.08*	.08*	−.19***	−.14**	−.14**
Age	−.03	−.02	.00	.10*	.05	.09*	−.05	−.06	−.06	.01	.04	.04
Achievement goals												
Task		.40***			.00			.43***			.43***	
		(.827)			(−.160)			(.955)			(.949)	
Performance-approach		.05			−.02			.09			.06	
		(.219)			(−.548)			(.567)			(.385)	
Performance-avoid		−.21***			−.47***			.01			−.06	
		(−.251)			(−.943)			(.283)			(.098)	
Expectancy beliefs												
Academic self-efficacy			.11			.16*			−.01			−.01
			(.771)			(.694)			(.670)			(.562)
Academic self-concept			.25***			.21**			.12			.13*
			(.827)			(.665)			(.712)			(.675)
Self-efficacy for			.14*			−.02			.31***			.27***
self-regulation			(.861)			(.460)			(.911)			(.830)
Value			.17**			−.22***			.18**			.22***
			(.722)			(−.205)			(.728)			(.800)
R^2	.03**	.20***	.25***	.05***	.28***	.13***	.03**	.25***	.24***	.05***	.24***	.26***
Change in R^2		.17***	.22***		.23***	.08***		.22***	.21***		.19***	.21***

Note. Beta values are reported with significance indicators. Structure coefficients are reported within parentheses.
*$p < .05$. **$p < .001$. ***$p < .0001$.

perceived authenticity ($\beta = -.469$). The influence of holding a performance-approach goal orientation was nonsignificant. Results of the structure regression coefficients were consistent with the obtained effects.

Researchers who have been calling for investigations that discriminate between performance approach and performance avoid in studies of achievement goal orientation (e.g., Elliot, & Harackiewicz, 1996; Middleton & Midgley, 1997; Urdan, 1997) will be heartened by the finding that a performance-avoid orientation was associated negatively with optimism and with perceived authenticity, whereas a performance-approach orientation was not. It is not surprising that holding a performance-avoid orientation is associated with pessimism and with fears of inauthenticity. Students whose achievement efforts are grounded on the fear of appearing incompetent, being embarrassed, or looking stupid are naturally prone to view the fruits of their labors through the lens provided by that fear. There can be little psychological distance between the fear that others will think us incompetent and the suspicion that we may be so, the suspicion that our accomplishments are ill deserved. And how could fear and suspicion not be chaperoned by pessimism? In general, the findings support the contentions of researchers regarding the adaptive function played by task goals and the negative influence of performance-avoid goals.

Each of the expectancy-value models added a significant proportion of the variance to the positive psychology variables. Value of school predicted each of the outcomes ($\beta = .167$ for optimism; $\beta = .176$ for inviting self; $\beta = .219$ for inviting others), although the influence on perceived authenticity was negative ($\beta = -.216$). Academic self-concept predicted optimism ($\beta = .244$), perceived authenticity ($\beta = .208$), and inviting others ($\beta = .131$). Self-efficacy predicted perceived authenticity ($\beta = .163$). Self-efficacy for self-regulation had a pronounced influence on being inviting to oneself ($\beta = .309$) and on inviting others ($\beta = .266$). The structure regression coefficients revealed that the influence of self-efficacy beliefs was attenuated by its collinearity with self-concept and with self-efficacy for self-regulation. The structure coefficients for self-efficacy suggest that it too was a noteworthy predictor of each of the positive psychology variables.

Finding that academic and self-regulatory confidence, as well as academic self-concept, are positively associated with optimism, authenticity, and invitations of self and of others is consistent with theoretical tenets from social cognitive theories and from self-concept theories (Bandura, 1997; Eccles, 1983; Marsh, 1985; Zimmerman, 1989). Although valuing school was one of the strongest predictors of optimism and of invitations of self and of others, results of the hierarchical regression analysis revealed a significant negative association between value and perceived authenticity. However, the correlation between these two variables was not significant and the structure regression coefficient was low. Clearly, the observed negative association is a function of value's covariation with one or more of the independent variables. Some expectancy-value theorists have posited that value and expectancies can interact in such a way that they can be inversely related, in the sense that

expectations to succeed at difficult tasks is valued, whereas expectations to succeed at easy tasks is not valued (Atkinson, 1964). The nature of this covariation is not easily untangled, and additional research is warranted.

I conducted multivariate analyses of covariance to determine whether the positive psychology variables differed as a function of gender, academic capability, or age. The key point of interest was to determine whether, as some previous findings suggest, girls, especially high-achieving girls, report lower perceptions of authenticity than boys do. Dependent variables were the positive psychology constructs; gender was the independent variable and GPA and age were used as covariates. I tested the assumption of equal slopes by examining all possible interactions between gender, GPA, and age—they all proved nonsignificant. I reanalyzed the model with the interaction terms removed. Results revealed a significant multivariate effect for gender, Wilks's $\lambda = .93$, $F(4, 521) = 10.12$, $p = .0001$, for GPA, Wilks's $\lambda = .95$, $F(4, 521) = 7.27$, $p = .0001$, and for age, Wilks's $\lambda = .98$, $F(4, 521) = 3.14$, $p = .0145$. Analyses of covariance, followed by tests of the difference between the adjusted means, revealed that GPA was significantly associated with each of the positive psychology constructs. The age effects revealed that as students grew older they reported greater perceived authenticity but also grew less inviting of themselves. I found gender differences favoring boys on perceived authenticity; differences favoring girls were found on inviting others. The results are provided in Table 3.

As these results show, the contention that girls and high achievers, especially high-achieving girls, tend to have greater feelings of inauthenticity in school settings received mixed support in this investigation. Boys reported greater perceived authenticity than did girls, but academic achievement was associated positively with authenticity, and there was no significant interaction between gender and achievement on authenticity. The mean for girls was 4.2 and for boys, 4.4 on a scale from 1 to 6, suggesting that differences were modest and that all students rated themselves above the mean on this variable. Nonetheless, girls reported lower perceptions of authenticity even though their academic GPA was higher than that of the boys. As frequently reported in the area of academic motivation, factors apparently continue to be at work to diminish the academic self-beliefs of some girls, and this warrants continued investigation and correction. The only other gender difference was that girls rated themselves stronger in being inviting to others, a finding consistent with previous research (Valiante & Pajares, 1999).

Conclusion

Results of this investigation reveal that integrating constructs prominent in traditional research on academic motivation with positive psychology constructs can yield valuable insights. Achievement goal theorists can add higher levels of optimism and a greater tendency to be inviting of oneself and of others as effects associated with holding a task goal orientation. Students whose academic efforts are grounded in love of the work and who prefer tasks from which they can learn, even if they make mistakes along the way, do not require that others validate their academic efforts and do not fear self-censure or the censure of others when errors are made. This social and psychological emancipation from need and fear frees individuals to more readily accept, appreciate, and forgive—to invite—themselves and others. And how could those personal and social invitations not be chaperoned by optimism and well-being?

In addition, findings support and extend the contentions of motivation theorists regarding the adaptive benefits of holding positive academic self-beliefs such as self-concept, self-efficacy, and self-efficacy for self-regulation, as well as valuing school. Although scholars have long known that these motivation constructs are related to positive academic outcomes, including academic achievement, it seems clear that they also are related to adaptive mental functioning and well-being. Clearly, dispositions such as optimism and authenticity are motivating. In addition, positive dispositions such as optimism, perceptions of authenticity, self-acceptance and regard, and acceptance and regard for others are themselves related to academic motivation and achievement.

Findings of any study are limited to the population from

Table 3.—Differences in Optimism, Authenticity, and Invitations, by Academic Achievement

Variable	Boys (n = 274)	Girls (n = 255)	GPA			Age		
			F	p	β	F	p	β
Optimism	4.0_a	4.0_a	13.16*	.0003	.154	0.46	.4948	−.029
Authenticity	4.4_a	4.2_b	17.52*	.0001	.189	4.94	.0266	.095
Inviting to self	4.5_a	4.5	8.87*	.0030	.121	4.36*	.0372	−.091
Inviting to others	4.5_a	4.8_b	4.18*	.0414	.088	0.07	.7946	.011

Note. Mean scores are adjusted lsmeans scores and are based on a Likert-type scale, ranging from 1 (*low*) to 6 (*high*) on the positive psychology variables. Adjusted group means for a dependent variable (row) that are subscripted by different letters are statistically different (experiment wise; $\alpha \leq .05$) computed on an effect identified by a multivariate analysis of covariance test of difference between adjusted means. GPA ranged from 0 to 4; age ranged from 11 to 16 years.

which the sample is drawn. In the present study, the sample consisted of Caucasian, middle class, middle school students. Researchers are urged to replicate the study using samples representative of other populations, socioeconomic strata, and academic grade levels. Moreover, the analyses conducted were correlational, and no causation should be inferred from the findings. Schunk (1991) and Pajares (1997) noted that, although quantitative methods typically have been used to study motivation constructs, qualitative methods such as case studies or oral histories are needed to gain additional insights and are especially relevant and appropriate to the study of academic self-beliefs.

Noddings (1992) observed that the ultimate aim of education should be "to produce competent, caring, loving, and lovable people" (p. 174). One need only cast a casual glance at the American landscape to see that attending to the psychological well-being of students is both a noble and necessary enterprise. The aim of education must transcend the development of academic competence. Schools have the added responsibility of preparing fully functioning and caring individuals capable of pursuing their hopes and aspirations. To do so, they must be armed with optimism, self-regard, and regard for others, and they must be shielded from doubts about the authenticity of their accomplishments. Teachers can aid their students by helping them to develop the habit of excellence in scholarship while nurturing the character traits necessary to maintain that excellence throughout their adult lives.

Results of this study reveal that students who value school, who view learning as an end in itself and believe that the purpose of learning is to master ideas and seek personal challenge, and who accompany these beliefs with confidence, positive self-feelings, and confidence in their self-regulatory practices also engage the world with optimism and view their accomplishments as merited and deserved. Such students also are more likely to regard themselves and to show regard for others. Those are attitudes and dispositions well worth nurturing in school. Moreover, they are the very elements with which a positive *educational* psychology should concern itself.

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