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The Relationship of Self-Efficacy with GPA, Attendance, and College Student Retention[1]

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Purpose

The purpose of this study was to examine the relationship between self-efficacy or belief in one's capability (Bandura 1977b, 1986, 1993, 1997) and first-term GPA, attendance, and retention using a modified version of the *General Self-Efficacy Scale (GSE)* (Schwarzer, 1992, 1993, 2005; Schwarzer & Jerusalem, 1993).

The study "College" is part of one of the world's largest for-profit career education organizations. At the College, 100% of the students commute to classes and live in the metropolitan area. A large percentage of students live in difficult urban neighborhoods and grow up with low family income, abuse, gang violence, drugs, health problems, poor English, and academic underachievement.

A study of student responsibility indicated that 54% of community college students are under the age of 25 and are not prepared academically or psychologically for what will be expected (Howell, 2001). They work to support dependents, frequently require childcare assistance, question their academic ability and perceive teachers as experts who dispense information and wisdom, and are frequently first-generation students.

First-term student success at the College is measured by academic achievement (a required minimum GPA of 1.5 on a scale of 0 to 4.0). Many students receive formal academic warnings at the end of their first term because of poor academic performance in terms of GPA (1.5-2.0) or are involuntarily withdrawn for a GPA less than 1.5.

The College has an open-admissions policy. Only a high school diploma or a GED is required for entry. Admissions representatives have a quota of students to recruit each term. Consequently, admission standards are flexible, as would be expected in a for-profit college. In this business context, being able to predict those students likely to earn a GPA of 1.5, consistently attend classes, and return for the next term translates into institutional success because continuing students generate future cash flow and profitability. The educational issue is being able to identify those students who need academic support to succeed. The purpose of this study was to determine if the construct of self-efficacy (Bandura 1977b, 1986, 1993, 1997) can predict student success and identify "at risk" students at the start of their first term at the College.

Background

Bandura (1986, 1997) indicated that self-efficacy is context-specific. Therefore, prediction of academic outcomes is enhanced by directly corresponding specificity. Bandura (1997), stated, "self-efficacy beliefs should be measured in terms of particularized judgments of capability that may vary across realms of activity, different levels of task demands within a given activity domain, and under different situational circumstances" (p.42). While corresponding specificity appears to impact the accuracy of outcome prediction for discrete task outcomes

(Pajares, 1996a, 1997; Pajares & Schunk, 2001), more generalized self-efficacy measures may be appropriate when attempting to predict results that are important, but less task-specific. Bandura (1997) also comments on this issue as follows:

> Often, the interest is in predicting a wide range of activities from efficacy beliefs assessed across different levels or facets of functioning within a given domain. An example would be the effect on academic grade point average of perceived self-efficacy to regulate one's motivation and learning activities. In the last instance, the link between perceived self-efficacy and the subsequent performance attainments is verified by macrolevel relations that correlate aggregated efficacy beliefs with aggregated academic performances (p. 55).

This study examines perceived aggregated or General self-efficacy and macrolevel academic performance as measured by GPA achievement, attendance, and retention of first-term students.

Bong (1997) assessed academic self-efficacy in an experiment involving six school subjects: English, Spanish, U.S. History, algebra, geometry, and chemistry. Participants were composed of N=578 students in grades 11 and 12 in Los Angeles County. She found that verbal and quantitative academic self-efficacy factors were positively and significantly correlated. She stated that …"the results simply provided an empirical justification for efficacy researchers to develop and use academic self-efficacy measures at various levels of specificity that correspond to the performance of interest" (p. 705). She also suggested that other personal variables on the generality of self-efficacy beliefs should be explored.

Generalized self-efficacy (Jerusalem & Schwarzer, 1992; Schwarzer, 1992, 1993) was used as the predictor in this study based on the premise that the greatest problem in a career college serving an urban, highly diverse, low-income population is students' inability to focus on educational effort due to life's general challenges, which materially detract from their academic performance. A premise of this study is that those who possess a more Generalized self-efficacy optimistically believe they are capable of handling life's problems, regardless of adversity, will perceive their academic success as part of the challenge.

In addition, when conceptions of subject-specific self-efficacy are expanded to include additional relevant factors such as self-regulation of learning activities, social ability to create supportive environments and to resist peer pressure that detracts from academic attainment, socioeconomic status, and the impact of familial relations, then measures of General self-efficacy are more predictive and account for substantially more of the variance in academic achievement (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, 1997).

When new students don't know what learning tasks and skills will be needed, their belief in their capability to succeed cannot be based on past experience. They can only believe they have the ability to succeed based on generalized accomplishments and generalized self-beliefs, which has been labeled self-efficacy for learning because they are inferences made about one's capability to learn that which is required for success in a new environment (Pajares & Schunk, 2001). In this context, a strong, personal sense of General self-efficacy is particularly important for motivating first-term students because they have only a vague idea of what will be expected.

Students entering postsecondary institutions for the first time have no postsecondary academic frame of reference and consequently are not able to make accurate judgments about their capability to perform well in specific tasks or subjects, in an unfamiliar learning environment. Therefore, a measure of more Generalized, rather than task or subject-specific, self-efficacy was determined to be a more congruent and useful predictor of success.

Research Questions

In order to explore the relationship between self-efficacy and first-term student success at the College, the following research questions were asked:

Primary

1. To what extent and in what manner can self-efficacy explain variation in grade point average (GPA) after controlling variation due to age and gender?

2. To what extent and in what manner can self-efficacy explain variation in attendance percent after controlling for variation due to age and gender?

3. To what extent and in what manner can self-efficacy explain variation in retention (returning for the next consecutive term) after controlling for variation due to age and gender?

Secondary

4. What is the relationship between Generalized self-efficacy and Specific self-efficacy attributes?

The Need for Additional Research

Many of the studies in the literature on self-efficacy and academics involve elementary, middle, and high school students. A smaller number of studies consider college students, in and outside of the United States. There were no studies found of self-efficacy in for-profit career colleges, yet there is a growing population of students pursuing this postsecondary educational alternative. There is a real need for additional research related to the relationship of self-efficacy (self-judgment regarding one's personal capability to succeed) on academic success at the postsecondary level in a for-profit, career college context. In addition, the literature tends to consider self-efficacy in the context of specific subject areas, especially math and writing self-efficacy.

Gender and Self-Efficacy

Another substantial area of self-efficacy research has been concerned with the relationship between gender self-efficacy and academic performance. In a study of reading motivation involving $N=105$ fourth and fifth graders, boys had less motivation, but the difference was not statistically significant (Wigfield & Guthrie, 1995). A study of elementary school children (Pajares, Miller, & Johnson, 1999) found no difference in writing self-efficacy after

controlling for aptitude, but girls had higher self-efficacy for self-regulation. In a study of middle school science students, girls had higher achievement, higher science efficacy, and higher efficacy for self-regulation (Britner & Pajares, 2001). Hall and Ponton (2005) studied the mathematics self-efficacy in college freshmen and found no significant gender difference.

Pajares and Valiante (2001) studied middle school students and found that differences in writing motivation and achievement were a function of gender orientation (stereotypic beliefs), not self-efficacy. Pajares (1996b) reported that high school girls perform as capably as boys in academic tasks, but reported lower self-efficacy. They frequently were less confident and may have given up more easily. However, in a study involving college students, Greenglass, Schwarzer, Jakubiec, Fiksenbaum, and Taubert (1999) found that women had a higher ability to cope with stress, by setting and striving to achieve academic goals.

Self-Efficacy Predicts Outcomes

According to Bandura (1997), self-efficacy is cognitive and causes self-regulating decisions that determine behavior, effort, and persistence. Because academic (self-efficacy) belief is cognitive and not the same as behavior, self-efficacy can be measured separately from self-regulating behaviors and academic results. Therefore, self-efficacy can be used to predict behavior, effort, persistence, and results.

Scope. The scope of this research has been limited to measuring self-efficacy of first-term students at the College with the intent to determine the extent of the relationship between self-efficacy and first-term GPA, attendance, and retention. Being able to identify "at-risk" students as they begin their educational effort will allow timely and efficient allocation of limited resources for early academic and social support intervention, which could take many forms including in-depth assessment, progress tracking, tutoring, advising, appropriate class assignments, study group assignments, personal counseling, and others. The strength of self-efficacy underlies interest, self-regulated actions, outcome expectations, goal setting, motivation, perseverance needed to overcome obstacles, and resilience when confronted with adversity.

Social Cognitive Theory

The College's students represent a low-income, diverse, urban population whose life situation requires they work to generate income for housing, childcare, health maintenance, transportation, clothing, food, and other basic living expenses. One premise of this study is that the demands of their social environment diminish the effort students commit to their academic pursuits. Bandura (1977a, 1977b) introduced his idea of social learning theory, and one of its central components, reciprocal determinism.

Reciprocal Determinism

Reciprocal determinism posits that behavior is not caused by internal traits, drives, or instincts, or by the situational influences of the environment, either individually or in combination, since each is considered to be a unidirectional determinant of behavior. Rather, human functioning, in social learning theory, is determined by the continuous reciprocal interaction of personal (cognitive), behavioral (affective), and environmental factors. In social learning theory determinism means individuals' actions are caused by the individual (Bandura, 1977a, 1977b). Therefore, students act purposefully, not just as a reaction to the external stimulation of their environment or simply because of internal needs. In determinism, individuals' cognitive processes mediate external influences and determine how those influences will regulate behavior. People therefore, exercise influence and control over their behavior.

In social learning theory environment influences how students behave, and in turn, students' behavior influences their environment. When students reflect on the causes and results of their past behavior, it influences what they think, what they expect, and how they will act in the future. Consequently, there is a triadic reciprocal causation between conditions (environment), personal cognitions (thinking and feeling), and behavior (actions). This premise has important implications for first-term students in that much of their behavior is determined by the accepted behaviors of their social environment that appears to value employment and family obligations before formal education. As a result, the College's students tend to miss too many classes, expend too little effort in academic endeavors, underachieve, and leave the College. The idea of this study was to discover if students, who had higher self-efficacy at entry, realized higher first-term academic success by taking control of their actions rather than allowing their environment to impede them. Any references within this paragraph?

Self-Regulated Behavior

Self-efficacy (Bandura, 1977a, 1977b, 1986, 1997) is at the core of social cognitive theory and refers to belief in one's capability. Self-efficacy ascribes and explains cognition's central role in the use of self-regulated behavior. Bandura (1997b) stated, "People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true" (p. 2) and "perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Self-efficacy beliefs stimulate the courses of action people select, their level of effort, their perseverance when obstacles are encountered, their resilience to adversity, how their positive and negative thoughts affect their functioning, how well they cope with stressors in their environment, and the nature and level of their accomplishments. Students with high efficacy surmount challenges through the use of self-regulatory skills and greater effort, while those with low self-efficacy tend to stop trying to succeed when they face difficulty (Bandura, 1997).

Efficacious individuals see difficult tasks as challenges to be mastered, are more interested in achieving goals, sustain higher effort at difficult times, and attribute failure to lack of effort or insufficient knowledge and skill. Students with low self-efficacy are less confident, believe things are tougher than they actually are, and are subject to more stress and depression (Pajares & Schunk, 2001).

Perceived self-efficacy plays the key role in the causal structure of social cognitive theory in that self-efficacy beliefs work to motivate personal adaptation and change, which then influences performance (Schwarzer, 1992; Bandura, 1997). Because self-efficacy beliefs underlie students' choice of challenges they undertake, students contribute to how they develop and what they become by influencing the environment in which their learning occurs.

Bandura (1986, 1989) asserts that human accomplishment, including the acquisition of knowledge and competencies, requires an optimistic sense of personal (General) self-efficacy because social realities are replete with impediments, adversities, failures, setbacks, and inequities. Bandura (1989) stated "Optimistic self-appraisals of capability raise aspirations and motivation in ways that enable people to get the most out of their talents" (p. 7).

Self-Regulation and Motivation. Zimmerman (1990) described self-regulated learners as learners who have the initiative to plan, set, renew, and achieve learning goals, self-monitor and self-evaluate, be self-starters, persist in their learning activities, and have high self-efficacy. Zimmerman, Bandura, and Martinez-Pons (1992) found that stronger self-efficacy better motivates students' self-regulating behaviors such as academic goal setting. The authors determined that more challenging goals were attempted by those with stronger measures of self-efficacy.

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Few teachers help students learn self-regulation skills such as goal setting, study strategies, and self-monitoring (Zimmerman, 1998, 2002). Students are usually not asked to evaluate their own work or to estimate their new skill level. They are not engaged in assessing their own self-efficacy or level of motivation for a designated activity or for specified outcomes. Students with high ability for self-regulation can use, modify, and internalize self-learning practices, but they must have enough belief in their General academic capability in order to be motivated to do so.

Methodology

The study examined the relationship between self-efficacy of entering students and their first-term academic success in an urban career college. The study included a validation of a self-report instrument that was used to measure the self-efficacy of a sample of first-term students. The instrument was administered at the beginning of the student's first term. Data regarding first-term GPA, classes missed, and retention into the next term were collected after the end of the first term for each student in the sample.

Sample

The study involved $N = 194$ first-term day and evening students, $n=66$ males (34%) and $n=128$ females (66%). All students were visited in a required first-term class by the researcher. Students attending class were invited to participate in the study. All such classes were visited during the first two weeks of the term in an attempt to acquire as many subjects as possible.

Data Collection Procedures

After a self-introduction by the researcher, students who attended the first-term class during the first week of the term were given a complete explanation of the study including its purpose, procedures, use of results, and confidentiality.

First-Term Student Questionnaire. Students were asked to voluntarily participate by completing the self-efficacy instrument, which was entitled *First-Term Student Questionnaire* and to sign an Informed Consent Form before completing the 20-item instrument (Appendix A). In the questionnaire a 4-point scale was used for consistency because the first 10 items pertaining to General self-efficacy were developed by Schwarzer (1992, 1993) and employed a 4-point rating scale. Items 11-20 assessing Specific self-efficacy were developed by the researcher to add specificity based on the literature review and a focus group discussion. Virtually all eligible students present agreed to participate and completed the instrument, which took approximately eight minutes. Classes were visited a second time at the next class session (during the first or second week of the term) by the same researcher to acquire additional respondents' surveys.

Confidentiality. Instructors were informed in advance of the visits and were instructed not to provide students with any preliminary information. All instruments were distributed and collected only by the researcher. All instruments were promptly removed from the classroom and taken off premises. No students saw the instrument before or after completing it. No student was asked to complete a second instrument or to change any responses. Student names or identification numbers were required to collect GPA and demographic data from the official student database.

Achievement and demographic data collection. Respondents had their GPA, first-term attendance, and returned for the second term data collected during the third week of their second term. The data were collected by the same researcher with permission from the college to use the data for the research project. Age and gender data for each student in the sample were also collected.

Data Analysis

In addition to the exploratory principal components "factor" analysis performed on the data from the self-efficacy items, the primary statistical technique used to analyze Research Questions 1, 2, and 3 was step-wise multiple regression. The demographic variables of age and gender were forced into the regression equations and, after entering age and gender, the multiple correlation (R) was evaluated. The General and Specific self-efficacy variables were then forced into the regression equations to determine the extent to which they significantly incremented the explanation of the variation in each of the separate dependent variables: GPA, attendance, and

retention.Research Question 4 analyzed the relationships between General self-efficacy and Specific self-efficacy attributes using Pearson's product-moment correlation. The statistical significance of the relationship was determined and effect sizes (r^2) were calculated.

Findings

Descriptive Data: Age, Gender and GPA

Table 1
Descriptive Statistics for Age and Gender

	Frequency	Percent
Age ($n = 122$)		
<21	46	38
≥21	76	62
Gender (*N* = 194)		
Male	66	34
Female	128	66

Age. While the sample included a total of $N = 194$ cases, age data were not available for $n = 72$ cases, yielding a total of $n = 122$ cases which were used in the multiple regression analysis. In this sample, 62% of the $n=122$ students who had age data in their database record were students 21 or more years old. Age was considered an independent variable to determine if older students were more academically successful.

Gender. In this sample of $N = 194$ first-term students, approximately two thirds (66%) were female. This percentage was a reflection of who happened to be in class when the data were collected during the first two weeks of the term. Gender was used as an independent variable to determine if academic success was related to gender for this sample.

Grade point average – GPA. Table 2 displays descriptive date for GPA.

Table 2
Descriptive Data for Dependent Variable: GPA

Variable	Range	Mean	Standard Deviation

GPA	(*n* = 192)	0 - 4.00	2.40	1.30

GPA is quantified on a 0 - 4.0 scale; the mean GPA for the first-term students sampled was 2.40. This is the high end of "average" for the GPA scale.

Factor Analysis

The factor analysis was run to examine the construct validity of the set of items on the instrument. The 20 General and Specific self-efficacy items were analyzed to determine meaningful subsets of items that could be considered dimensions of self-efficacy. A total of five factors were derived that accounted for 51.78% of the total variance. Of those five factors, two were conceptually meaningful and associated with reliable data. Factor I was called **General** self-efficacy because the items referred to the capability to cope with, and effectively solve, a wide variety of difficult and unexpected generalized problems in life which require substantial effort to achieve a goal. These items were the ones developed by Schwarzer (1992, 993). Students rating these items highly feel that they can resolve their life problems, even when they are opposed by others or must find unique ways to get what they want.

Factor II was called **Specific** self-efficacy because the items are specifically linked to academic issues such as time management, schedule conflicts, managing money, homework, attendance, and grades. These items were developed by the researcher. Students who rated these items highly believe they can manage their stress, health, and behavior well enough to be academically successful and, as a consequence, obtain a good position when they graduate.

An oblique rotation was performed in the factor analysis. The correlation between the axis system defining the factors was found to be *r* = .29; we decided not to merge the two factors based on this correlation and the conceptual meaningfulness of the separate factors. Table 3 contains the factor names, General and Specific, the item stems that define the factors, and the factor loadings.

Reliability

Cronbach's alpha internal consistency reliability index was generated for the data from the set of items defining each factor. For Factor I, General self-efficacy, the reliability was .75 and for the Specific self-efficacy items, the alpha reliability of the data was .73. While not reaching our desired level of .80, we accepted the two reliabilities and used the factors as dependent variables.

Table 3

First-term Student Questionnaire: Principal-Component Analysis with Oblique Rotation
 (*N* = 191)

	Item	Stem	Loading
Factor I General Self-efficacy	8	When I am confronted with a problem, I can usually find several solutions.	.71
	4	I am confident that I could deal. effectively with unexpected events	.69
	9	If I am in trouble, I can usually think of a solution.	.58
	7	I can remain calm when facing difficulties because I can rely on my coping abilities.	.57
	6	I can solve most problems if I invest the necessary effort.	.54
	10	I can usually handle whatever comes my way.	.51
	5	Thanks to my resourcefulness, I know how to handle unforeseen situations.	.50
	2	If someone opposes me, I can find the means and ways to get what I want.	.46
	1	I can always manage to solve difficult problems if I try hard enough.	.39
Factor II Specific Self-efficacy	16	I will choose school over work if schedules conflict.	.78
	18	I am positive I can earn enough money to keep attending	.57
	19	I know I will get a good position when I graduate if I do well.	.57
	17	I will always find a way to get to class.	.53
	13	I am certain I can find the time to do all my homework.	.40
	15	I am certain I can control the stress in my life so I can do well in school.	.39
	20	I will take care of my health so I can achieve better grades.	.32

Research Question 1

Research question 1: *To what extent and in what manner can self-efficacy explain variation in **grade point average** (GPA) after controlling variation due to gender and age?*

Table 4
GPA Regression for Age, gender, and Self-Efficacy (n = 120)

Variable	R	R^2	Beta	t	p
Block 1	.10	.01			
Age			.09	1.02	.31
Gender			.03	-.28	.78
Self-efficacy					
General	.25	.06	**.23**	2.60	**.01**
Specific	—	—	—	—	—

Note. Specific self-efficacy did not enter the regression equation.

Research question 1 was analyzed using step-wise multiple regression. To control for variation in self-efficacy due to age and gender, these two variables were first forced into the regression equation. After entering age and gender as a set of variables, the General and Specific self-efficacy variables were entered to determine if they incremented the amount of variance explained in GPA. The data in Table 4 indicate that only 1% (r^2) of the variation in GPA was explained by the control variables, age and gender ($F = .58$, $p=.56$). General self-efficacy incremented the amount of variance explained in GPA by 5%, resulting in a total of 6% of the variation explained in GPA, which was statistically significant ($F = 6.76$, $p < .01$). Using Cohen's guidelines, the effect size of this correlation is considered to be in the small to medium range (Cohen, 1988; Huck, 2004).

Research Question 2

Research question 2 asked: *To what extent and in what manner can self-efficacy explain variation in **attendance** percent after controlling for variation due to age and gender?* Table 5 contains regression results.

Table 5
Attendance Regression for Age, Gender, and Self-Efficacy (n = 121)

Variable	R	R²	Beta	t	p
Block 1	.12	.02			
Age			.11	1.21	.23
Gender			.04	.39	.70
Self-efficacy					
General	—	—	—	—	—
Specific	—	—	—	—	—

Note. General and Specific self-efficacy did not enter the regression equation.

Research question 2 was analyzed using multiple regression to control for variation due to age and gender. These two variables were forced into the regression equation first. Only 2% of the variation in attendance was explained ($F = .88$, $p < .42$). Following this, the General and Specific self-efficacy factors were entered in a
step-wise manner to see if they incremented the amount of variation in attendance explained by self-efficacy. The data in Table 5 indicate that the age and gender variables, either individually or as a block, did not significantly explain variation in attendance. At the same time, neither General self-efficacy nor Specific self-efficacy accounted for any additional significant explanation of variance in attendance. Therefore, as depicted in Table 5, the two self-efficacy variables did not enter the regression equation.

Research Question 3

Research question 3 asked: *To what extent and in what manner can self-efficacy explain variation in **retention** after controlling for variation due to age and gender?* Research question 3 was analyzed using multiple regression to control for variation due to age and gender.

Table 6
Retention Regression for Age, Gender, and Self-Efficacy (n = 121)

Variable	R	R²	Beta	t	p
Block 1	.11	.01			
Age			-.08	-.89	.37
Gender			.08	.89	.38
Self-efficacy					
General	—	—	—	—	—
Specific	—	—	—	—	—

Note. General and Specific self-efficacy did not enter the regression equation.

The age and gender variables were forced into the regression equation first. Only 1% of the variation was explained by this operation ($F = .69$, $p < .50$) indicating that the set of variables age and gender did not explain a significant amount of variation in retention. Following this, the General and Specific self-efficacy factors were entered in a step-wise manner to see if they incremented the amount of variation in retention explained by self-efficacy. The data in Table 6 indicate that neither General self-efficacy nor Specific self-efficacy accounted for any significant additional variance in retention. Consequently, as indicated in Table 6, they did not enter the regression equation.

Research Question 4

Research question 4: *What is the relationship between General self-efficacy and Specific self-efficacy attributes?* The correlation between the General self-efficacy and Specific self-efficacy variables was statistically significant ($r = .42$, $p < .001$). The effect size for this correlation is calculated as $r^2 = .18$, which is considered medium to large using Cohen's guidelines (Cohen, 1988; Huck, 2004). Therefore, it can be reasonably concluded that 18% of the variance in General self-efficacy is associated with variability in Specific self-efficacy.

Discussion

This study was initiated with the recognition that private for-profit career education is a growth industry that attracts low-income, urban, adult students who value a relatively fast credentialing experience leading to employment and continuing income. Almost all students receive financial aid in the form of loans which they agree to pay back after graduation. Students do not come to a post-secondary career school to become an educated person in the traditional way. When they arrive, very few see themselves attending a 4-year college or going to graduate school. Students often arrive with underdeveloped academic skills and, to a large extent; they rely on their personal belief that they have the capability (self-efficacy) to succeed.

Many students come from dysfunctional families, dangerous neighborhoods, and may have chronic physical, emotional, and mental health problems. Too many are experiencing the stress of poverty, sometimes resulting in personal abuse and homelessness. Too many are parents who cannot effectively support and care for their children. Many of these men and women have adopted confrontation as their default strategy for dealing with interpersonal conflict - they fight well, verbally and physically.

Most have jobs or are looking for one because they need money. Many students must justify taking the time to attend classes when they could be working to help support their family. Many students have serious learning skill deficiencies because they previously earned only a GED or a high school diploma from a school in a poor, urban area plagued with barriers to learning achievement. In addition, a large percentage of students went to high school in other countries. While the majority of students in this study students speak multiple languages, their English literacy is lower than needed, both written and spoken. The personal objective of the typical career school student is to get a good paying job as fast as possible.

The primary intention of this study was to determine the relationship between self-efficacy and first-term academic success (GPA, self-regulated attendance, and retention) in a

career college serving a diverse, urban, low-income population. Being able to identify entering first-term students who are potentially at-risk of poor academic performance or failure resulting in withdrawal is incorporated in this intention. Early identification of students who need additional support to succeed would allow targeted and efficient deployment of limited available institutional resources. Effective academic resource allocation to at-risk students would benefit the institution and its students by reducing achievement-related failures and withdrawals which may lead to increased graduation rates.

An additional related goal was to determine the relationship between General and Specific self-efficacy in that much of the literature suggests that predictability of performance improves as self-efficacy measures become more specific (Bandura, 1977, 1986, 1997; Pajares, 1996a, 1996b).

Another goal was to determine the extent to which age and gender were related to GPA achievement, attendance, and retention. Many previously cited studies of self-efficacy in elementary and middle school have amply demonstrated that males have higher self-efficacy than females for math and science subjects and females have higher self-efficacy than males in subjects such as English and music (Bandura, A., Barbaranelli, C., Caprara, G., & Pastorelli, C. 2001; Bussey & Bandura, 1999; Pajares, 2002). However, there were no studies found of the relationship between age, gender, self-efficacy, and academic success for an urban, career college, adult population. It was a goal of this study to determine if its findings were consistent with previous studies.

Conclusions

Age and Gender

Age and gender are not related to success at the study's College for this sample of $N = 194$ students. Based on the results of the multiple regression analysis, the percent of the variance explained (i.e., R^2) by the set of variables: age and gender is 1% for GPA, 2% for attendance, and 1% for retention. It was expected that students 21 years old and older might be more successful than students less than 21 years old, but that result was not found. Gender was also found not to be significant as a predictor of GPA. Age and gender appear to be reduced or eliminated as an explanation of academic performance, which is consistent with findings from previous research (Becker & Gable, 2009)

General Self-Efficacy and GPA

For the regression analysis explaining variation in GPA , the set of three variables: age, gender and General self-efficacy, explained 6% of the variance ($R^2 = .06$). This means that after controlling for age and gender ($R^2 = .01$), students' perceptions of their General self-efficacy, or their optimistic belief in their personal capability to solve problems and achieve intended goals was responsible for incrementing the explanation of variation in GPA by 5% ($p < .01$) beyond the variance explained by age and gender. This result is statistically significant and somewhat practical. While the amount of variation explained is small, it can be qualitatively described as a

"small to medium" effect size based on Cohen's guidelines. It can be concluded that General self-efficacy was related to first-term academic success.

Specific Self-Efficacy and GPA

Specific self-efficacy was also related to GPA achievement. At the $p < .05$ level, the correlation of General self-efficacy with GPA ($r = .18$) and the correlation of Specific self-efficacy with GPA ($r = .17$) were nearly the same with General having only a slightly higher correlation. Additionally, the correlation between General self-efficacy and Specific self-efficacy derived in the factored item subsets was $r = .42$ ($p < .001$), generating a medium effect size based on Cohen's guidelines. The General and Specific self-efficacy factors had a moderate and significant relationship. However, once the General self-efficacy regression analysis explained the variance in GPA, Specific self-efficacy was unable to increase the explanation of variance in GPA further. From a practical point of view, General and Specific self-efficacy were equally related to GPA.

Specific Self-Efficacy, Attendance, and Retention

Neither General self-efficacy nor Specific self-efficacy accounted for any significant variance in attendance or retention beyond that related to age and gender. Consequently, neither General nor Specific self-efficacy entered the regression equation for attendance or retention. However, as can be seen in Appendix B, the correlation between GPA and attendance (classes missed) was $r = -.72$ ($p < .001$), the correlation between GPA and retention was $r = .52$ ($p < .001$), and the correlation between attendance and retention was $r = -.39$ ($p < .001$). These correlations indicate significant relationships between GPA, attendance, and retention.

Limitations/Delimitations

Sample Characteristics

The population sampled was racially and ethnically diverse. Many students were raised in Caribbean, African, European, Asian, and Middle Eastern countries and most students spoke multiple languages. The *GSE* is available in 29 languages, but not in every language. The English version of the *GSE* has been validated and widely used (Jerusalem & Schwarzer, 1986, 1992). All students spoke English, but a weakness in the study was that students' English grammar was not always equivalent to that taught in United States schools. Students, whose primary language is not English, may have had problems reading or interpreting items.

This study is limited to first-term College students, virtually all of whom came from low-income environments, and does not apply to students in other academic terms or students in other types of schools, such as public community colleges, or non-urban environments. As a result of this study, there may be implications that apply to for-profit career colleges, or other career colleges in urban areas in the United States, or to urban community colleges, or other colleges, but further research is needed to confirm this study's findings and their application to other populations and settings.

Participation

Not every first term student had the opportunity to participate in the study. Only those who attended class on the days that classes were visited by the researcher during the first two weeks were invited to participate. For practical reasons, there was no effort made to contact students who were not available during class visits. It would also be useful to study students in later terms to compare the relationship between self-efficacy and academic performance at different times in a student's academic career.

Accuracy of Perceived Capabilities

Students tend to overestimate their academic ability (Pajares, 1996b). Consequently, first-term student's appraisals of their own capability made at the start of the term may not be perceived accurately and they may have overestimated their anticipated academic performance. Bandura (1986) indicates that those with perceived high self-efficacy select more challenging tasks and goals which could negatively impact academic success because their actual academic ability may not be up to the unknown challenge.

Contextual Causation

It is also possible that a student's self-efficacy, self-regulation, and academic performance could have improved during the term because of superior teaching and mastery experiences, peer modeling, social persuasion, emotional growth in a college educational situation or a combination of these, and other sources of self-efficacy information, influence, and development. In such a case, first-term academic success may be, in part, a function of the student's learning and personal growth during the first term, rather than solely their self-efficacy level at the beginning of the term. Self-efficacy was not measured a second time at the end of the term, which would have provided additional insight into this issue.

Implications

It would be highly useful to measure student self-efficacy before and after teachers have learned techniques they could use to help their students develop their self-efficacy. This is the great promise of self-efficacy research. If increasing self-efficacy leads to greater academic performance, then learning how to enable students to develop it has profound implications for those currently constrained by environmental forces and underserved by the educational system.

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Appendix A

FIRST-TERM STUDENT QUESTIONNAIRE

Clearly print your name: _____

Your signature: _____

Your social security/ student number is: _____

Term Code: _____

Directions: For each of the twenty items below, write one number
(1, 2, 3, or 4) from the choices listed that best describes your response. Put your choice in the spaces provided. Please answer every item. The choices are:

1 = Not at all true
2 = Hardly true
3 = Moderately true
4 = Exactly true

Hand in your completed questionnaire when you have finished writing your answers.

 1. I can always manage to solve difficult problems if I try hard enough _____
 2. If someone opposes me, I can find the means and ways to get what I want_____
 3. It is easy for me to stick to my aims and accomplish my goals_____
 4. I am confident that I could deal efficiently with unexpected events_____
 5. Thanks to my resourcefulness, I know how to handle unforeseen situations_____
 6. I can solve most problems if I invest the necessary effort ____
 7. I can remain calm when facing difficulties because I can rely on my coping abilities_____
 8. When I am confronted with a problem, I can usually find several solutions_____
 9. If I am in trouble, I can usually think of a solution. _____
10. I can usually handle whatever comes my way _____
11. I am certain I can manage the problems in my life so I can focus on my studies_____
12. I am certain I can obtain financial aid to pay tuition_____
13. I am certain I can find the time to do all my homework_____
14. I'm certain my family and friends want me to succeed in college_____
15. I am certain I can control the stress in my life so I can do well in school_____
16. I will choose school over work if schedules conflict_____
17. I will always find a way to get to class _____
18. I am positive I can earn enough money to keep attending____
19. I know I will get a good position when I graduate if I do well_____
20. I will take care of my health so I can achieve better grades_____

Thank you.

Appendix B

Correlation Among Self-Efficacy, Attendance, GPA and Retention (*N*=194)

	General SE	Specific SE	Attendance	GPA	Retention
General SE	1			.	
Specific SE	.42	1		.	
Attendance	-.06	-.16	1		-.39
GPA	.18	.17	-.72	1	.
Retention	.06	.09	-.39	.52	1