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Academic Self-Efficacy in the College Classroom: An Examination of Undergraduate Students'
Reported Efficacy for Learning Tasks

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Abstract

Self-efficacy is a personal belief in one's ability to accomplish particular tasks. Academic self-efficacy relates to one's belief in ability to accomplish learning activities. A convenient cluster sample (n=105) of undergraduate students at a regional university in the midsouth was administered a survey that measured student academic self-efficacy and other student characteristics. This sample's SELF-A scores were nearly a standard deviation below the original sample. Freshman were more likely than sophomores or seniors to say they could *not* motivate themselves to keep good notes during a boring lecture, could not motivate themselves to do well on tests in which they felt depressed, and could not motivate themselves to study for an exam early enough to prevent cramming. A/B students were more likely to report keeping up with studying despite personal conflicts. Educators should structure instruction in ways that support development of increasing higher levels of self-efficacy to promote student belief of academic abilities.

KEYWORDS: Academic self-efficacy, College Success, Learning Tasks, Student beliefs

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Self-efficacy can be conceptualized not as the relationship between effort and results in given tasks, but rather, as the individual's belief in their ability to be successful at said tasks (Bandura, 1977). That is to say, individuals may know what specific behaviors are necessary to produce particular outcomes, yet have varying beliefs about the degree to which they can be successful with completion of those behaviors, partially accounting for differences in performance on the tasks at hand (Wood & Bandura, 1989).

Although such phenomena arise in various aspects of human life, one area in which self-efficacy judgments are often studied is as they are related to academic learning (Zimmerman, Bandura, & Martinez-Pons, 1992). Because self-efficacy judgments regarding tasks can be related to motivation to or actual engagement in the tasks, it would seem important for educators to understand the degree to which the students they serve demonstrate efficacious judgments concerning tasks known to be pertinent to success in academic learning (Zimmerman & Kitsantas, 2007). This study seeks to examine relationships that exist between students' reported efficacy for particular tasks related to learning and other student characteristics.

Bandura's Social-Cognitive Theory (1986; 2001), recognizes that human learning is based upon a system of three forces: social, personal, and behavioral—each of which influence one another to affect human development. As related to education, social influences include environmental components such as the materials in the classroom, the financial resources within a learner's home, or even the behavior of teachers and others around the learner (Woolfolk, 2011). Personal factors include variables like attitudes, personal prior knowledge, beliefs, goals, and the ability to self-regulate (Bandura, 1986; Woolfolk, 2011). Finally, behavioral components

include what the learner actually *does*, such as how they act, what work they complete, what they say in class, or any other related behaviors (Woolfolk, 2011). Known as Triarchic Reciprocal Causality, the relationships that exist between and among the various components of each of the three factors related to human learning is considered much more complex than earlier behaviorist notions of conditioning and social learning (Bandura, 1986; Woolfolk, 2011).

Self-efficacy beliefs, and by extension, academic self-efficacy, fall within the personal domain of the Triarchic Reciprocal Causality process (Bandura, 1977; 1986). As stated by Bandura (1977), although self-efficacy is not the only factor responsible for individual behaviors and success on tasks, “perceived self-efficacy [has] a directive influence on choice of activities and settings [and] through expectations of eventual success, it can affect coping efforts once they are initiated” (p. 194). As applied to academic learning, learners with higher levels of belief in their ability to engage in behaviors appropriate for learning (i.e. higher academic self-efficacy) are more likely to choose to engage in learning activities and, if they should initially meet a task unsuccessfully, they are more likely to persist and try again.

Several studies that focus on the relationship between academic self-efficacy and student performance in various learning tasks and overall well-being highlight the important relationship that exists between one’s perceived ability at being successful in learning and one’s ability to actually learn and achieve academic success. For example, one review of research on the topic conducted by Schunk and Zimmerman (2007) revealed not only the notion that skills associated with enhancing student self-efficacy can be enhanced via instruction and modeling, but also that enhancements in self-efficacy relate to improved outcomes for student learning in both reading and writing contexts. Although such conclusions have been reached in studies of various age groups, instructor strategies that improved academic self-efficacy in students studying writing at

the undergraduate college level were linked to improved writing skills in the adult learner age groups (Zimmerman & Kitsantas, 2002).

Other studies confirm relationships between academic self-efficacy and student academic performance, across various subject areas and age groups, reaffirming the need to consider ways to enhance academic self-efficacy among learners in various subject areas. In a study by Pershey (2010), an urban elementary, non-special education population of African American students demonstrated that their self-perceptions in school performance were positively correlated with their overall performance on state-mandated achievement tests as well as their overall performance on normed language and reading measures. Interestingly, this cross-sectional study sample was divided between fourth and sixth grade students, with fourth grade students enjoying school more, but feeling less confident and able to complete academic tasks (Pershey, 2010). Students in the sixth grade felt capable but performed less well than their normative peer groups on academic measures (Pershey, 2010). This is of concern because, as highlighted in Pershey's (2010) discussion, students that feel like they are more successful than they actually are may not try as hard to improve their learning outcomes. The conclusions emerging from this inquiry speak to the need for students to have academic self-perceptions rooted in realistic performances, if those self-perceptions are to be beneficial to learning outcomes.

Although Pershey's (2010) study is important in terms of considering the importance of accuracy in self-efficacy judgments related to student performance, it also suggests the examination of contextual factors (e.g., demographics) that exist that may be to academic self-efficacy, as well as overall academic performance. Other studies also have sought to establish such evidence. Bong (1999) reached several conclusions through the use of factor analytic procedures on data collected during a previous study from a high school sample out of Los

Angeles, CA. Most notable to the consideration of the role of student demographics and contextual information in this work were the following conclusions:

1. On the whole, the data indicated that boys reported less difference between their academic self-efficacy judgments with respect to mathematics and subjects related to language arts (they reported higher as compared to girls in general). Girls, on the other hand, demonstrated greater reported difference when it came to their efficacy in mathematics as compared to language arts related subjects.
2. Latino-American students reported a difference in their academic self-efficacy involving the Spanish language as compared to those that involved the use of the English language; non-Latino students had less variability in their academic-self judgments across the school content depicted.
3. Students in Advanced Placement Courses (either English or Math related subjects), demonstrated greater variety in reported self-efficacy across academic subjects, whereas non-AP students' overall sense of academic self-efficacy was more homogeneous across academic subject. To be precise, the students in the accelerated courses were more specific with their academic self-efficacy judgments, demonstrating higher efficacy for those subject areas in which they were placed in accelerated coursework (Bong, 1999).

The overall findings from this secondary analysis suggest that students that performed with better academic expertise in a particular field had self-efficacy judgments related to academics that were less generalized than those that merely participated in the general secondary curriculum (Bong, 1999). This again highlights the relationship between accurate self-efficacy judgments in academics and overall student performance in academic subjects. Unlike the

Pershey (2010) study, this study provides much more in the way of the examining other contextual factors that students exhibit which may influence academic self-efficacy judgments (Bong, 1999).

Multitudes of studies of academic self-efficacy exist in which student demographic variables are most often considered in an effort to not only better understand academic self-efficacy specifically, but also, the ways in which differences in academic self-efficacy and overall student performance on academic tasks may vary as related to student demographic information. For example, Hsieh, Sullivan, and Guerra (2007) identified relationships among college students in terms of their overall G.P.A. and their reported self-efficacy about being a college student. As one might expect, the two variables were positively correlated (Hsieh et al., 2007). The authors indicated that the students in their sample with higher G.P.A. not only had higher reported self-efficacy, but also demonstrated more mastery goals than those with G.P.A.'s below 2.0 (Hsieh et al., 2007).

In another study of academic self-efficacy in the college age population, Wang and Castañeda-Sound (2008) examined the differences in academic self-efficacy and psychological well-being that may appear among first generation college student populations as compared to students whose families had members (e.g., father, mother) that had previously attended college. Notable findings from this study included not only that the first generation college students reported an overall lower sense of academic self-efficacy, but also, that these same students reported higher tendencies toward having physical health concerns than their second or above generational college student counterparts (Wang & Castañeda-Sound, 2008). As can be seen, yet another important student characteristic, student generational status for involvement in college,

has been considered in relation to academic self-efficacy beliefs (Wang & Castañeda-Sound, 2008).

Initially, it may appear that questions concerning academic self-efficacy and student contextual and demographic information may have been fully investigated. However, central to the present study is the notion that, because so many differences appear to exist in academic self-efficacy and student performance as related to particular student contextual characteristics, further investigation of these multiplicative relationships is warranted. Also, the design and application of interventions to enhance learner efficacy beliefs in academic tasks must include and consider the ways in which these measures dynamically differentiate by virtue of the characteristics of the learners being studied. Such study is critical because, as Zimmerman & Kitsantas (2007) notes, “compared with students who doubt their learning capabilities, those with a high self-efficacy for acquiring a skill or performing a task participate more readily, work harder, persist longer when accounting difficulties, *and achieve at higher levels* (p.9) [emphasis added].

It appears that the relationship between students’ reported academic self-efficacy, their actual ability, and a whole host of other student characteristics (e.g. self-regulatory processes) is complex, to say the least, and any study related to academic self-efficacy, student learning, and interventions to enhance learning should keep in mind this complex relationship. As such, the present study seeks not only to investigate the academic self-efficacy of a particular group of college students, but also, to compare the group studied across meaningful demographic and contextual factors. Through such an investigation, the researchers sought to better understand not only the role of academic self-efficacy to learning, but also, relationships among factors that may

influence student academic performance and achievement (e.g., contextual factors, student traits, developmental history).

Method

Participants

This study employed a convenient cluster sample of 105 students taking summer classes at a regional university in the mid-south. Sixty-one percent of respondents were female and nearly 100% were Caucasian. They reported 29 different majors, with the highest concentrations being education (17%), biology-related (13%), and agriculture-related (10%). The distribution across year in college is shown in Table 1.

Table 1

Sample Distribution Across Year in College

Year	n	%
Freshman	26	25
Sophomore	19	18
Junior	26	25
Senior	33	31
Graduate	1	1

Students were asked to self-report their GPA range. A large majority (63%) claimed a B average, while 30% reported a C average. The remaining 7% were split between A and D average grade point averages.

Instrumentation

The 19-item *Self-Efficacy for Learning Form – Abridged* (SELF-A) (Zimmerman & Kitsantas, 2007) was employed to gauge student academic self-efficacy. This instrument has a

single factor structure and is highly consistent internally (Cronbach's $\alpha=0.92$). The SELF-A assesses student confidence with skills such as taking notes, getting ready for tests, and studying, as well as with motivation, time management, and attention. Participants are asked to indicate the percentage of confidence they have regarding the topic of each item, from 0% (Definitely Cannot Do It) up to 100% (Definitely Can Do It).

Procedure

Researchers requested permission from course instructors to administer the survey to their students in the last 15 minutes of a regularly scheduled class period. Courses surveyed were spread across the departments of agriculture, geology, biology, physics, philosophy, education, English, and history.

Analysis

Total scores, item means, and related standard deviations were computed for demographic sub-groups and visually inspected for effect size prior to statistical testing. Seven inferential tests (six ANOVAs and one t-test) were conducted on SELF-A total score or item means, with follow-up Ryan-Einot-Gabriel-Welsch Multiple Range Tests (*SPSS Advanced Models*, 2006, p. 12; Toothaker, 1993) for the ANOVAs and a Bonferroni correction of the resulting alphas. A Tukey multiple comparison test was performed on the means from Item 19 when the REGWQ did not give an interpretable result.

Results

Scale totals for males and females were compared to the original SELF-A validation sample of 223 from Zimmerman and Kitsantas (2007), which was drawn from a major state university in New York. This was done in order to ascertain whether the average self-efficacy of

students in the current sample was similar to that of the validation sample. Table 2 shows a demographic comparison of the two samples.

Table 2

Comparison of Validation Sample to Study Sample

Variable	Zimmerman & Kitsantas (N = 223)	Current Study Sample (N = 105)
Caucasian	81%	99%
Female	75%	61%
Freshmen & Sophomores	4%	43%
Mean Total SELF-A (std.) --		
Males	75.99 (12.61)	64.11 (14.57)
Females	76.10 (10.77)	66.11 (13.58)

The younger sample from this study showed average total SELF-A scores of nearly a standard deviation lower than reported by Zimmerman and Kitsantas (2007). That difference cannot be attributed to the larger proportion of upper classmen in the Zimmerman and Kitsantas study, however, as mean SELF-A scores for just juniors and seniors in the current study were also about 10 points lower: 66.11 (males) and 66.74 (females).

ANOVAs were conducted to analyze for differences across year in college on total SELF-A score as well as the following item scores:

Item 3: When a lecture is especially boring, can you motivate yourself to keep good notes?

Item 11: When you find yourself getting increasingly behind in a new course, can you increase your study time sufficiently to catch up?

Item 15: When you are feeling depressed about a forthcoming test, can you find a way to motivate yourself to do well?

Item 18: When you think you did poorly on a test you just finished, can you go back to your notes and locate all the information you had forgotten?

Item 19: When you find that you had to “cram” at the last minute for a test, can you begin your test preparation much earlier so you won’t need to cram the next time?

Table 3 shows the means, standard deviations, F values, and p-values for the six ANOVA tests.

Table 3

ANOVA Results for SELF-A by Year in College

Variable	Freshmen	Sophomore	Junior	Senior	F	p
	Mean (Std.)	Mean (Std.)	Mean (Std.)	Mean (Std.)		
Item 3	33.46 ^A (23.48)	58.89 ^B (26.16)	46.92 (27.24)	57.06 ^B (26.69)	4.99	0.0029**
Item 11	60.77 ^A (22.61)	76.84 ^B (21.62)	66.15 (20.61)	71.76 (20.07)	2.52	0.0619
Item 15	59.23 ^A (21.53)	73.16 ^B (12.93)	66.92 (20.74)	74.12 ^B (16.90)	3.66	0.0149*
Item 18	74.23 (22.48)	84.21 ^A (16.77)	68.46 ^B (20.53)	74.41 (21.20)	2.14	0.0998
Item 19	60.77 ^A (21.89)	74.74 ^B (15.77)	71.15 (17.28)	74.71 ^B (22.46)	2.83	0.0420*
SELF-A Tot.	59.62 (14.56)	69.52 (11.42)	65.63 (16.37)	67.13 (11.78)	2.30	0.0817

Note: Means marked A were significantly different from means marked B; * indicates a $p < .05$; ** indicates a p that met the Bonferroni correction of $\alpha=0.007$

The differences with p-values less than 0.05 all showed that freshmen indicated less self-efficacy than students farther along in college. Freshmen were more likely than sophomores or seniors to say they could *not* motivate themselves to: keep good notes during a boring lecture (Item 3 effect size = 0.90); do well on an upcoming test about which they were feeling depressed

(Item 15 effect size=0.78); or begin preparing for a test early enough to prevent the need to cram at the last minute (Item 19 effect size=0.68).

A t-test on Item 9 means showed that students with A/B grade point averages were *more* likely than students with C/D averages to say they could keep up with their studies despite conflicts such as problems with their friends (effect size=0.46). Results of the t-test are displayed in Table 4.

Table 4

Item 9 t-test Results by Grade Point Average

<u>Group</u>	<u>n</u>	<u>Mean</u>	<u>Std.</u>	<u>t</u>	<u>p</u>
A/B Grades	69	74.06	20.17	-2.25	0.0265
C/D Grades	34	63.97	23.67		

Discussion

The purpose of the present study was to investigate the academic self-efficacy of a particular group of college students, and to compare the group studied across meaningful demographic and contextual factors. The investigation of our convenience sample yielded some interesting results.

A comparison with the scaled scores of the original validation sample of the Self-A instrument (Zimmerman & Kitsantas, 2007), indicated that participants in our sample believed themselves to be considerably less efficacious with regard to their academic abilities. There could be multiple reasons for such as discrepancy, some of which might include the history of the role of higher education within the region from which the sample was taken, the number of

professional positions requiring college educations in the region sampled as compared to the original sample (Zimmerman & Kitsantas, 2007), or even comparative differences in the relative value of formal education as taught to students from school and home prior to reaching the age for post-secondary education. In addition to these suggested possibilities, our results indicate that our students are likely coming into their college experiences without the requisite knowledge, skills, and abilities (e.g., time and affect management, study strategies, self-motivation) to engage effectively and feel empowered to be successful in college. Further investigation of the findings is obviously indicated.

In addition to the discrepancy in this sample and the validation sample on the SELF-A instrument, the findings of this study also support the literature that implies that self-efficacy beliefs have a developmental component, perhaps in that they are “related to an enhanced ability to use effective problem-solving and decision-making strategies” (Chemers, Hu, & Garcia, 2001, p. 14). The literature explicating the developmental and dynamic nature of self-regulatory processes (e.g., Winne & Hadwin, 2008) is also supported. Given that both self-regulated learning (SRL) and self-efficacy are grounded by similar theoretical premises and assumptions, it follows that a learner’s efficacy regarding attainment in an academic context or subject area is likely to be influenced by their engagement in cognitive, metacognitive, and behavioral activities that are associated with learning and academic achievement (Pintrich, 2004; Vermunt & Vermetten, 2004), and *vice versa*. If it is fair to say that students starting undergraduate programs have fewer experiences to promote academic self-efficacy beliefs than upperclassmen, then it becomes critical for teachers at all levels to not only help students develop sources of academic self-efficacy sooner in their academic experiences, but also, to observe and manage behaviors and cognitions of students that enhance academic achievement. Therefore, instructors should be

interested in closely monitoring student success as measured through demonstrations of mastery of the course objectives. If those behaviors can be maintained or increased through assisting student development of effective learning strategies, self-efficacy beliefs to engage in tasks for academic learning will also be enhanced.

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