

## Self-Efficacy and Academic Success Among Ethnically Diverse First-Generation Community College Students

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A longitudinal analysis of self-efficacy for education and sociodemographic characteristics was conducted among an ethnically diverse sample of first-generation college students (FGS) attending an urban community college. Baseline rates of self-efficacy for education and first-generation immigrant status significantly predicted increased cumulative grade point average at 1-year follow-up. These findings suggest that self-efficacy for education is an important cognitive resource among ethnically diverse FGS attending community colleges, whose immigrant generation status might have an impact on their educational success.

*Keywords:* self-efficacy for education, first-generation college students, immigrant status, sociodemographic characteristics, Beliefs in Educational Success Test (BEST)

Self-efficacy is a cognitive resource that involves an individual's confidence or belief in one's ability to effectively engage in behaviors toward desired goals (Bandura, 1997). Findings from research studies that have examined the relationship between self-efficacy and educational outcomes among students in university settings have implications for understanding this cognitive resource among first-generation college students (FGS) attending community colleges. For instance, among a sample of first-year students attending university, academic self-efficacy was shown to be a powerful predictor of expectations and performance (Chemers, Hu, & Garcia, 2001). In addition, Gore (2006) found that academic self-efficacy was a significant predictor of both grade point average and retention among a large sample of Midwestern university students. However, the effects of self-efficacy upon educational outcomes among FGS attending community colleges have not been critically examined.

Research studies report that FGS typically are those whose parents never attended college

or university (Hahs-Vaughn, 2004; Inman & Mayes, 1999; Shields, 2002) and who often begin their higher education at the community college level (Chen, 2005). Investigations have found FGS tend to have different educational experiences from those of non-first-generation college students. For instance, FGS attending community colleges complete fewer college credit hours, work more hours, have lower grades, and study less than do other students (Chen, 2005; Pascarella, Wolniak, Pierson, & Terenzini, 2003; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996).

In addition, diverse FGS' noneducational experiences related to their class status, ethnicity, and identity issues might challenge their adjustment to a white-collar world (Lippincott & German, 2007). For instance, Lohfink and Paulsen (2005) found that race, gender, and income were related to less persistence in maintaining enrollment between first and second years among FGS attending 4-year institutions. In addition, age is one characteristic related to attrition, because FGS in comparison with more traditional college students experience greater difficulty in their first year while navigating their transition from high school to college (Terenzini et al., 1996). Sociodemographic characteristics might account for why only one fourth of FGS attain a bachelor's degree in comparison with the two thirds of students whose parents are college graduates (Chen, 2005).

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Electronic copies of the Beliefs in Educational Success Test (BEST) are available upon request.

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Furthermore, research evidence suggests that ethnic minority students have unique motives (e.g., helping family, proving self-worth, and encouragement) for attending college that might challenge their adjustment to an academic culture (Phinney, Dennis, & Osorio, 2006). This might be more challenging for FGS because they tend to be of multiple-minority status in terms of their sociodemographic characteristics that research findings suggest are related to low academic preparedness (Hahs-Vaughn, 2004), low grades (Chen, 2005), and less academic persistence (Lohfink & Paulsen, 2005). Experiences related to FGS' family obligations and immigration status in particular might affect their beliefs in pursuing higher education (Phinney et al., 2006). Therefore, it is important to examine sociodemographic characteristics in relation to FGS' beliefs in their ability to engage in behaviors related to their goal of educational success; in other words, their self-efficacy for education.

*Self-efficacy for education*, or educational self-efficacy, is a term that reflects the general conceptualization of academic self-efficacy in that it is not limited to any specific academic subject (Chemers et al., 2001; Elias & Loomis, 2000; Gore, 2006; Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002). However, we do not know the impact of self-efficacy for education upon educational success among FGS attending community colleges and whether it is a cognitive resource among diverse students who typically encounter additional experiences that might challenge their academic pursuit. It is important to examine the impact of self-efficacy for education in relation to socioeconomic characteristics over time to identify predictors of educational success because findings would have implications for educators, counselors, and policymakers working with diverse FGS attending community colleges.

Because a cross-sectional approach to inquiry would not provide data from which causal inferences could be drawn, the present study longitudinally investigated educational outcomes in relation to self-efficacy for education among a diverse sample of FGS enrolled in an urban community college. Baseline levels of self-efficacy for education and sociodemographic characteristics were compared with educational outcomes at 4-month and 12-month follow-up intervals. It was hypothesized that levels of self-

efficacy for education and sociodemographic characteristics would predict educational outcomes. In addition, it was hypothesized that sociodemographic characteristics among FGS would moderate the relationship between self-efficacy for education and educational outcomes.

## Method

### *Participants*

Ninety-six (28 men and 68 women) adults were selected from an available pool of 169 students on the basis of being a first-generation college student. They had an average age of 24.4 years ( $SD = 7.9$ ) and were recruited from seven introductory undergraduate psychology courses offered on campus during the first week of the spring 2007 semester at Richard J. Daley College located in Chicago, Illinois. This convenience sample was chosen because students usually take an introductory psychology course as partial fulfillment of their social science requirement regardless of their intended major or academic program.

The sample was not representative of most community college students in that Daley College primarily serves members of ethnic minorities living in the southwest area of Chicago. In terms of race, 53.1% were Latino or Latina American, 33.3% were African American, 7.3% were European American ("White"), and 6.3% reported several other racial groupings (i.e., African, Asian, Middle Eastern, and Native American) that were collapsed into a single category from a choice of nine response items.

Participants ( $n = 96$ ) were first-generation college students (FGS) in that both their parents never attended college. Most were single (69%) and were employed part-time (42.1%) or full-time (34.7%) or were unemployed (23.2%). They reported an average of having completed 2.5 ( $SD = 1.7$ ) semesters of college at the onset of the study. Their reported number of children ranged from 0 to 5 ( $M = .8$ ,  $SD = 1.2$ ), and their average total weekly household income was \$786 ( $SD = \$524$ ). In terms of immigrant status, 43.8% of the sample reported that they were third or later generation in that they and both their parents were born in the United States (Mena, Padilla, & Maldonado, 1987; Phinney et al., 2006). Second-generation

status (i.e., U.S. born with one or both parents foreign born) and first-generation status (i.e., foreign born) was reported by 33.3% and 22.9% of the sample, respectively.

### Materials

*Self-efficacy for education.* The Beliefs in Educational Success Test (BEST; Majer, 2006) was administered at baseline (Wave 1) and at a 4-month assessment interval (i.e., end of the first semester; Wave 2), to assess students' confidence in their ability to engage in behaviors related to higher education across 10 hypothetical situations. The BEST is based on Bandura's (1997) cognitive-behavioral self-efficacy theory that involves one's sense of confidence or ability to engage in goal-oriented behaviors, with high scores indicating greater levels of confidence. Items of the BEST reflect a range of specific tasks commonly associated with the pursuit of higher education but do not focus on any one academic subject area, and this operational definition of self-efficacy has been used in previous research (Chemers et al., 2001; Gore, 2006). For example, respondents are asked a stem question ("How confident are you. . .?"), followed by 10 hypothetical situations, including "in your ability to learn new information?"; "that you will complete all required coursework for your degree/program?"; and "to seek your professors' help during office hours?" Responses range from 0% (*Not at all confident*) to 100% (*Very confident*), and most students completed this self-administered survey in about 5 min. The BEST was found to have very good internal consistency (Cronbach's alphas ranging from .83 to .91) in three pilot samples ( $n = 20, 74,$  and  $97$ ) consisting of similar students, and with the present sample the internal reliability was excellent (Cronbach's  $\alpha = .92$ ). Findings from additional analyses of the BEST lend support for its use as an appropriate instrument in the present study.

*Psychometric properties of the BEST.* The concurrent validity of the BEST was examined in one pilot sample ( $n = 74$ ) in which participants also completed a standard measure of perceived self-efficacy, the General Self-Efficacy Scale (GSE; Schwarzer, 1993; Schwarzer & Jerusalem, 1995). The GSE measures a global confidence in one's coping ability across a wide range of demanding or novel situations;

thus a significant positive relationship between the BEST and GSE was expected. The 10 items of the GSE are scored on a 4-point scale (1–4) ranging from *not at all true* to *exactly true*, with high scores indicating higher self-efficacy. Example GSE items include "I can always manage to solve difficult problems if I try hard enough"; "I am confident that I could deal efficiently with unexpected events"; and "It is easy for me to stick to my aims and accomplish my goals." The GSE has good internal consistency (Cronbach's alphas ranging from .76 to .90), and with the pilot sample the internal reliability was very good (.80). A partial correlational analysis (one tailed)—controlling for age, gender, immigrant status, education (in terms of previous number of completed college semesters), income, and race—revealed a significant and positive relationship between BEST and GSE scores,  $r(53) = .52, p < .001$ . This finding indicates a moderate degree of criterion-related validity for the BEST with respect to the domain of self-efficacy.

The convergent validity of self-efficacy for education was examined in relation to optimism and self-mastery in order to provide some empirical basis for the construct validity of the BEST. Optimism and self-mastery are theoretically similar in that they are cognitive resources used for coping, and they have been found to be significantly and positively related to self-efficacy in a number of studies. For instance, optimism has been reported to positively correlate with self-efficacy in studies on anger expressiveness (Ausbrooks, Thomas, & Williams, 1995), stress buffers and dysphoria (Lightsey, 1997; Lightsey & Christopher, 1997), recovery from substance dependence (Majer, Jason, Ferrari, Olson, & North, 2003; Majer, Jason, & Olson, 2004), and response to natural disaster (Benight, Swift, Sanger, Smith, & Zeppelin, 1999). Likewise, a positive relationship has been found between self-mastery and self-efficacy (Lightsey, 1997; Lightsey & Christopher, 1997). Therefore, significant and positive relationships were expected between participants' BEST scores on the one hand and their scores from standard measures of optimism and self-mastery on the other hand.

*Optimism.* Participants completed Scheier, Carver, and Bridge's (1994) revised Life Orientation Test (LOT-R) to assess their tendency to expect favorable outcomes. Optimism is a

favorable attitude or expectation toward future events, irrespective of one's perceived ability to efficaciously engage in goal-oriented situations or control outcomes (Scheier & Carver, 1985). The 12 items of the LOT-R are rated on a 5-point scale (0–4) ranging from *strongly disagree* to *strongly agree*, with scoring of only 6 LOT-R items (3 items are reverse scored) because the other items are used as filler items. Example items include “In uncertain times, I usually expect the best”; “I hardly ever expect things to go my way”; and “I’m always optimistic about my future.” The LOT-R has good internal consistency (Cronbach’s alpha = .78), and items on the LOT-R have been reported as correlating very high (in the .90s) with the original LOT items (Scheier et al., 1994). The internal reliability in the present study was good (Cronbach’s alpha = .76).

*Self-mastery.* Pearlin and Schooler’s (1978) Self-Mastery Scale (SMS) was used to measure participants’ level of self-mastery. Self-mastery is a perception that reflects one’s personal mastery or control over life outcomes, and it has been defined as the “extent to which one regards one’s life-chances as being under one’s own control in contrast to being fatalistically ruled” (Pearlin & Schooler, 1978). The seven items (two are reversed scored) of the SMS are scored on a 4-point scale (agree–disagree format) ranging from 0 to 28, with high scores indicating higher self-mastery. Example items include “I have little control over the things that happen to me” and “I often feel helpless in dealing with the problems of life.” A previous study (Scheier et al., 1994) demonstrated that the SMS has good internal consistency (Cronbach’s alpha = .75), and the internal reliability for the SMS in the present study was good (Cronbach’s alpha = .78).

Partial correlational analyses (all one tailed)—controlling for age, gender, immigrant status, education (in terms of previous number of completed college semesters), income, and race—revealed that participants’ self-efficacy for education (BEST) scores were significantly and positively related to their optimism scores (LOT-R) scores,  $r(65) = .38, p < .001$ . Participants’ self-efficacy for education (BEST) scores also were significantly related to their self-mastery (SMS) scores,  $r(65) = .58, p < .001$ . These findings provide some empirical

basis in support of the BEST’s convergent validity.

*Sociodemographic information.* In addition, all participants completed a Basic Information Survey (17 items) developed for the present study as a way of gathering relevant sociodemographic information. This included students’ age, employment status, FGS status, gender, immigrant status, (total weekly household) income, number of children, number of completed college semesters, and race at Wave 1 (January 2007).

*Educational outcomes.* Attendance rates were collected at Wave 2 (May 2007), and they represented the percentage of class sessions attended among students within the their introductory psychology course during the semester. Limiting attendance rates to attendance in one course, as opposed to aggregating students’ attendance rates across various courses and semesters, was a matter of feasibility in terms of data collection in addition to controlling for potential variance related to course content. Cumulative grade point average (GPA) and attrition status (based on each student’s enrollment status) were collected from official college records at the 12-month assessment interval (i.e., the end of the second regular semester, December 2007; Wave 3). Attendance rates, GPA, and attrition were used as educational outcomes for data analysis.

### Procedure

The investigation was formally proposed to and approved by an institutional review board. Participants for the study were recruited during the first class session of the spring 2007 semester by both the investigator and another full-time faculty member who assisted in data collection. Both faculty engaged all students in a process of informed consent, explaining that participation was entirely voluntary and that students were able to withdraw at anytime without pressure. Students were informed that their responses would remain confidential and that their GPAs, attendance rates, and attrition status would be anonymously used in a report of the investigation. Directions were reviewed and read aloud while the two full-time faculty members were available throughout the survey administration in order to answer students’ questions. Individuals who agreed to participate

(>98%) at both Waves 1 and 2 received extra credit in their course for their participation. Students completed measures in about 10 min.

A complete-case approach was used to evaluate baseline demographic data ( $n = 96$ ) to and calculate analyses. Participants with missing follow-up data on outcome variables (5%) were excluded from analyses. In addition, there were missing baseline data regarding participants' sociodemographic characteristics (12%) and BEST scores (22%) at Wave 2. A missing values analysis of all the independent variables (including sociodemographic characteristics) and dependent variables indicated that the data were missing at random, Little's missing completely at random (MCAR) test:  $\chi^2(62) = 40.09, p = .98$ .

## Results

General linear multiple regression and binary logistic regression models were used to determine whether self-efficacy for education and students' sociodemographic characteristics predicted three educational outcomes. Both models included students' Wave 1 reports of their age, full-time employment status, gender, immigrant status (dummy coded for first- and second-generation immigrant status), income, number of children, number of completed college semesters, and race (dummy coded for African American, Latino or Latina American, and European American) as predictor variables in addition to BEST scores. Outcome variables were students' GPA, attendance, and attrition.

### GPA

The general linear model revealed that students' BEST scores ( $\beta = .35, t = 3.27, p < .01$ ) and first-generation immigrant status ( $\beta = .38, t = 2.07, p < .05$ ) significantly predicted GPA,  $r = .61, F(12, 63) = 3.04, p < .01$ ; adjusted  $R^2 = .37$ . In addition, when students' optimism (LOT-R) and self-mastery (SMS) scores were added to the model, the results were statistically similar for BEST scores ( $\beta = .43, t = 3.28, p < .01$ ) but not for first-generation immigrant status ( $\beta = .34, t = 1.85, p < .07$ ). However, students' LOT-R scores ( $\beta = -.07, t = -.54, p < .59$ ) and their SMS scores ( $\beta = -.07, t = -.47, p < .64$ ) were not significant predictors for GPA,  $r = .63, F(14, 60) = 2.82, p < .01$ ; adjusted  $R^2 = .26$ .

### Attendance and Attrition

The general linear multiple regression model was not a significant predictor for attendance,  $r = .43, F(12, 63) = 1.26, p < .27$ ; adjusted  $R^2 = .04$ . A binary logistic regression model, using the same predictor variables used in previous analyses, was used to test the predictors for attrition. The omnibus test for model predictors was not significant,  $\chi^2(12, N = 76) = 18.50, p < .10$ , indicating an inadequate fit of the data for the model. When optimism (LOT-R) and self-mastery (SMS) scores were added to these models, the results were statistically similar.

### Moderating Effects

A second general linear regression model that included all predictors from the original model, in addition to an interaction term (First-Generation Immigrant Status  $\times$  BEST), was used to statistically test the moderating effects of first-generation immigrant status. This model,  $r = .61, F(13, 62) = 2.78, p < .01$ ; adjusted  $R^2 = .24$ , revealed that students' BEST scores ( $\beta = .33, t = 2.84, p < .01$ ) were a significant predictor for GPA. However, first-generation immigrant status ( $\beta = .09, t = .09, p < .93$ ) and the interaction term ( $\beta = .29, t = .30, p < .76$ ) were not significant predictors for GPA. The results were statistically similar when LOT-R and SMS scores were added to the model.

### Secondary Analysis

The relationship of BEST scores between Waves 1 and 2 was examined by a correlational analysis (one tailed) that revealed a significant and positive relationship between BEST scores,  $r(74) = .68, p < .001$ . The magnitude of this relationship was identical when a partial correlational analysis (one tailed), controlling for sociodemographic characteristics tested in previous analyses, was used,  $r(52) = .68, p < .001$ .

## Discussion

The significant positive relationship between levels of self-efficacy for education and cumulative GPA at the end of an academic year suggests that greater self-efficacy for education is instrumental in promoting educational gains

among a diverse sample of first-generation college students (FGS) attending an urban community college. This finding is consistent with research that has shown that such self-efficacy predicts increased academic performance in predominantly European American university students (Chemers et al., 2001; Gore, 2006). In addition, this finding extends Gibbons and Shoffner's (2004) social-cognitive career theory in that self-efficacy for education is a cognitive resource that is particularly important to diverse FGS (Phinney & Hass, 2003) who attend community college.

The nature of the relationships between self-efficacy for education and educational outcomes in the present study might be a product of how self-efficacy for education was operationalized (Gore, 2006; Pajares, 1997). Even though significant and positive relationships (as expected) were observed between self-efficacy for education on the one hand and optimism and self-mastery on the other hand, only self-efficacy for education predicted increased grade point average (GPA). These findings support the predictive validity of the BEST as a measure of self-efficacy for education. More importantly, they suggest that diverse FGS would benefit by college success interventions that address self-efficacy for education.

In addition, the significant relationship between levels of self-efficacy for education at Waves 1 and 2 suggests a moderate degree of test-retest reliability of the BEST. Because self-efficacy operates within a broad network of sociostructural influences (Bandura, 1997), this finding also suggests that students experienced little change in such influences that otherwise might have had an impact on their efficacious expectations during the 4-month window between assessment intervals. Such a claim can be verified only through subsequent research targeting the impact of interventions on efficacious expectations and behaviors. Nonetheless, findings in the present study are based on results from a diverse community college sample of FGS in which self-efficacy for education and immigrant status were significant predictors of GPA.

The significant positive relationship between participants' first-generation immigrant status and their GPA is consistent with research that suggests sociodemographic characteristics are important considerations to understanding edu-

cational success among FGS (Chen, 2005; Choy, 2001; Lippincott & German, 2007; Lohfink & Paulsen, 2005; Phinney et al., 2006). It is possible that first-generation immigrant students in the present study had a strong ethnic identity serving as a resource that increased their academic performance (Ong, Phinney, & Dennis, 2006). Research evidence suggests that some diverse FGS may not have adequate coping resources (Phinney & Hass, 2003) to respond to their unique needs including academic performance, and findings in the present study suggest that this might be more prevalent among second- and third-generation immigrant students. In addition, findings have implications for understanding diverse FGS whose immigrant generation status might be meaningfully related to both the acculturative process in the general sense (Phinney et al., 2006) in addition to acculturation to the academe (Lippincott & German, 2007), though such speculation can be verified only by more rigorous investigations.

Furthermore, first-generation immigrant status was not found to be a significant moderator in the present study. The lack of statistical significance for first-generation immigrant status and the interaction term as predictors in the second regression model might have resulted from homogeneity of responses (Holmbeck, 1997), particularly within the self-efficacy for education measure (i.e., BEST scores).

There are a few limitations in the present study. Findings might be limited to diverse FGS who attend urban community colleges. Although there is a dearth of research on FGS students attending community colleges, findings in the present study might not generalize to nonurban and less diverse settings. Multiple samples with more diverse students might better inform us as to the effects of sociodemographic characteristics upon educational outcomes for FGS. It is possible that results of the present study might have been different if a longer time frame (e.g., 2 years) than 1 year was used in evaluating outcomes among diverse FGS, moreover examining class cohort (e.g., first- through fourth-year levels) effects. In addition, data were collected at the beginning of the second semester of a regular academic year, and it is possible that results might have been influenced by a long (i.e., summer instead of winter) break when some participants might have been enrolled in courses. Furthermore, even though the

measure of self-efficacy for education in the present study had excellent internal consistency and empirical support for its predictive, concurrent, and convergent validity, it is a new measure that has not been used with other samples. However, findings from this preliminary study can inform future investigations to better understand the effects of self-efficacy for education and sociodemographic characteristics among diverse FGS attending community colleges.

### Conclusion

The present longitudinal study is innovative in that it investigated the effects of self-efficacy for education among a diverse sample of first-generation college students (FGS) attending an urban community college. The sample permitted analyses that yielded intriguing findings related to self-efficacy for education and sociodemographic characteristics upon educational outcomes. Academic counselors and faculty working with diverse FGS should devise interventions and classroom strategies in a manner that fosters self-efficacy for education to increase educational success. Researchers should consider using self-efficacy for education as an outcome measure for academic interventions with FGS and further examine how immigrant generation status is related to educational success. In future research, with comparison groups that involve diverse students attending various educational settings (i.e., universities, colleges, and community colleges) within urban, suburban, and rural areas, we can better understand how self-efficacy for education and sociodemographic characteristics relate to educational success. Overall, findings from the present study suggest that self-efficacy for education is an important cognitive resource among diverse FGS whose sociodemographic characteristics have an impact on their educational success.

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