ABSTRACT

THE ROLES OF ACADEMIC AND BICULTRUAL SELF-EFFICACY ON ACADEMIC ACHIEVEMENT AMONG HISPANIC STUDENTS

The growth of the Hispanic population and their continued low achievement has implications for educators. The purpose of the current study is to examine two factors that can increase academic performance of Hispanic students: bicultural self-efficacy and academic self-efficacy. Bandura's social cognitive theory of self-efficacy can be used to measure perceived bicultural competence and perceived academic competence. Bicultural competence has been found to benefit Hispanic students' psychological adjustment and academic achievement. Past studies have found a positive correlation between academic self-efficacy and academic achievement of Hispanic students. However, the combined effect of bicultural self-efficacy and academic self-efficacy on academic achievement of Hispanic students has not been examined. Three hypotheses were proposed. First, academic self-efficacy would be a predictor of academic achievement among Hispanic students. Second, bicultural self-efficacy would be a predictor of academic achievement among Hispanic students. Third, bicultural self-efficacy would serve as a moderator of the relation between academic self-efficacy and academic achievement among Hispanic students. Results indicated academic self-efficacy and bicultural self-efficacy individually positively predicted academic performance. The interaction term did not have a statistically significant effect on academic achievement. The findings may support the development of programs to increase academic self-efficacy and biculturalism of Hispanic students.

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THE ROLES OF ACADEMIC AND BICULTRUAL SELF-EFFICACY ON ACADEMIC ACHIEVEMENT AMONG HISPANIC STUDENTS

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CHAPTER 1: INTRODUCTION

The Hispanic population is the fastest growing minority group in the United States. In 2010, Hispanics were the largest ethnic minority group, with a population of 50.9 million people (US Census Bureau, 2010). In schools, students who identified as Hispanic made up 18.1% of all students in the United States. However, Hispanic students are also the group with the highest school drop-out rates (United States Department of Education, 2016). In 2014, survey data showed that the percentages of those who were enrolled and obtained a high school diploma were 97% for Whites, 92% for Blacks, 97% for Asian/Pacific Islanders and only 75% for Hispanics. This achievement gap between Hispanic and other ethnicities widens as students progress through the educational system (United States Department of Education, 2016).

Hispanic students are at an increased risk of dropping out of high school and attend college at lower rates than other ethnicities. In 2015, the percentages of people who possessed a bachelor's degree were 41% for Whites, 22% for Blacks, 61% for Asian/Pacific Islanders, and only 15% for Hispanics. This same pattern of low achievement continues in graduate school. Hispanics have the lowest educational attainment of any ethnic group in the United States (Kena et al., 2015). These findings underscore the importance of increasing high-school graduation rates and college graduation of Hispanic students.

Hispanic families place a strong value on education. Nine of 10 Hispanic parents believe a college education is important and want their children to attend college (Lopez, 2009). However, the enrollment of Hispanic students in college does not represent the importance placed on education by this cultural group. Although the Hispanic population values education, its members continue to have

the lowest enrollment and graduation rates in higher education (Krogstad, 2016). This demonstrates alternate factors may be impacting academic achievement. It is important to identify the risk factors impacting the academic achievement of Hispanic students.

One critical difference between Hispanic children and peers from the mainstream cultural group is their experience of the acculturation process. The process of learning and adapting to a new culture has several difficulties and outcomes. Challenges that arise are often a result of language differences, conflicting cultural practices, and value differences (Santiago, Gudiño, Baweja, & Nadeem, 2014). Hispanics who identify with the mainstream culture only may experience additional difficulties and stressors caused by a loss of connection with the culture of origin. Similarly, Hispanics who identify with their native culture only may experience stressors in mainstream settings (e.g., at school) (Santiago et al., 2014). For students whose environmental demands call for proficiency in both mainstream and origin cultures, biculturalism has been found to be the most effective acculturation strategy (Bacallao & Smokowski, 2005).

Biculturalism is an internalization in which an individual adopts mainstream practices and retains the culture of origin. Biculturalism is associated with better adjustment, well-being, and academic achievement in Hispanic students (Phinney, Horenczyk, Liebkid, & Vedder, 2001; Santiago et al., 2014). Biculturalism has been studied by demographics, internalization of mainstream and ethnic cultural values, and more recently, from a social cognitive perspective which emphasizes bicultural self-efficacy (David, Okazaki, & Saw, 2009). Bandura (1986) stated that people's self-efficacy is their self-regulated perception about their capabilities on a specific task or event in their lives. Self-efficacy is associated with choice of activities, effort, and perseverance on a task (Artino,

2012). Bicultural self-efficacy is the perceived ability to be an active member in both cultures, or be bicultural (David et al., 2009).

Another factor that is associated with academic achievement is academic self-efficacy, which entails an individual's perceived ability on academic tasks and is highly beneficial to academic performance. Academic self-efficacy is a strong predictor of academic achievement and persistence in college (Gore, 2006; Robbins, Allen, Casillas, Peterson, & Le, 2006). For Hispanic students, academic self-efficacy is a stronger predictor of academic performance than acculturative stress, even when considering demographic factors and past academic performance (Zajacova, Lynch, & Espenshade, 2005). Bicultural self-efficacy and academic self-efficacy are both associated with academic achievement (López, Ehly, & García-Vásquez; Zajacova et al., 2005). However, there is limited research on the combined benefits of these variables on academic achievement of Hispanic students.

The current research focuses on bicultural self-efficacy and academic self-efficacy as these concepts are highly related to student academic performance. The literature review includes a background on each of these concepts and their relationship with academic performance. Thus, the purpose of the current study is to examine the relationship between academic self-efficacy and biculturalism, and their relation with academic achievement in Hispanic students.

CHAPTER 2: LITERATURE REVIEW

Acculturation

The Hispanic population is the fastest growing group in the United States (US Census Bureau, 2010). This group also has the highest school drop-out rates and lowest college graduation rates (US Department of Education, 2016). The low educational attainment of Hispanic students is a concern that should be addressed by identifying culturally related factors contributing to academic achievement.

One important factor that affects Hispanic students is the acculturation process. Acculturation is the process of learning and adapting to a new culture, which often includes learning a new language, cultural practices, values, and beliefs (Berry, 2003). Acculturation was once thought of as a unidimensional process in which the highest level of acculturation was assimilation to the mainstream culture and loss of the ethnic culture (Padilla & Perez, 2003). A competing theory is Berry's (2003) bidimensional model of acculturation in which the ethnic culture and mainstream culture are measured on a continuum. In this model, people can identify with their ethnic culture, mainstream culture, both cultures, or neither. This model includes four strategies: separation (orientation to ethnic culture only), assimilation (orientation to new culture), integration (orientation to both cultures, that is biculturalism), or marginalization (orientation to neither culture) (Berry, 1980, 2003). The belief that people must reject their ethnic culture in order to acculturate to the mainstream culture has been refuted. In the last 20 years, there has been extensive research that supports the bidimensional model as more representative of the complexity of the acculturation process (Campos, Dunkel-Schetter, Walsh, & Schenker, 2007; Ryder, Alden, & Paulhus, 2000; Sabatier & Berry, 2008).

The acculturation process has implications for Hispanic students. For example, immigrants and children of immigrants may experience conflicts associated with learning a new culture. Factors that may affect academic achievement of Hispanic students are acculturative stress, low socioeconomic status, language difficulties, and discrimination (Crockett et al., 2007). However, a key challenge for Hispanics is the dual adaptation to their ethnic culture and the mainstream culture. This dual adaptation involves social interactions and practices in two cultures, which has potential for conflict. Despite individual differences it has been found that people with a bicultural orientation experience less stress and have better adaptation outcomes than all other acculturation strategies (Berry, 2005).

Biculturalism

A bicultural individual incorporates two different cultures' practices, values, and beliefs into his or her life and remains a member of both. People can be highly acculturated to the mainstream culture and remain active members of their ethnic culture (Berry, 2003). Some researchers have found that biculturalism has the greatest benefits to adjustment than all other acculturation strategies (Phinney et al., 2001). This may be a result of the bicultural individual's competence in navigating both the mainstream and ethnic culture (LaFromboise, Coleman, & Gerton, 1993). However, other researchers have argued that having two cultures is a burden that can lead to an identity confusion (Rudmin, 2003).

Nguyen and Benet-Martinez (2013) conducted a comprehensive meta-analysis on the effects of biculturalism on adjustment (psychological, sociocultural, and health related). The meta-analysis reviewed and synthesized the findings of 83 studies on acculturation and adjustment that used both bilinear and

unilinear measures. Nguyen and Benet-Martinez found a strong association between biculturalism and positive adjustment. Hispanic students who were more bicultural had better psychological (e.g., life satisfaction) and sociocultural (e.g., behavioral competence) adjustment than Hispanic students who were less bicultural. The researchers also provided evidence that supports the use of the bidimensional model. The results of this meta-analysis invalidate the use of a unidimensional model of acculturation and provide evidence to further refute the view of bicultural individuals as "marginal" and burdened by two cultures. These findings indicate that biculturalism is associated with better adjustment and overall well-being for individuals experiencing the acculturation process (Nguyen & Benet-Martinez, 2013). The benefits of biculturalism carry over to academic performance of Hispanic students.

López et al. (2002) conducted a study in response to the low educational attainment of Hispanic students to identify variables affecting their academic success. The two factors examined were acculturation and social support. López et al. (2002) recruited 91 Mexican American ninth-grade high school students. Participants completed a demographic questionnaire that included age, gender, family support, role models, and socioeconomic status. The Acculturation Rating Scale for Mexican Americans (*ARSMA-II*), a multidimensional scale, was administered to determine the acculturation strategy of students. Academic achievement was measured by school GPA, obtained through school cumulative records. Results indicated that highly integrated (i.e., bicultural) individuals had higher academic success than assimilated and marginal individuals. All participants perceived social support from parents, teachers, and peers. The implications of the study are that adopting values and practices of both the mainstream and native culture is associated with higher academic achievement.

Further, being an active member of both cultures allows individuals to build and maintain strong relationships with parents, teachers, and peers. Biculturalism is beneficial to the academic performance of Hispanic students.

Hispanic students experience challenges associated with acculturation to a culture with a different language, values, and practices (Nguyen & Benet-Martinez, 2013). There is evidence that for students whose environmental demands call for proficiency in both mainstream and ethnic skills, biculturalism has been found to be the most effective acculturation outcome (Berry, 2005; Nguyen & Benet-Martinez, 2013; Phinney et al., 2001). The benefits of biculturalism have also been found in the academic achievement of Hispanic students. Highly bicultural students had higher academic achievement than less bicultural students (López et al., 2002). It is important to further examine biculturalism when addressing the problem of low educational attainment of Hispanic students.

Bicultural Self-efficacy

An individual's biculturalism can be viewed from the perspective of Bandura's self-efficacy theory and LaFromboise's model of bicultural competence (David et al., 2009; LaFromboise et al., 1993). Bandura (1986) introduced the social cognitive theory of self-efficacy. Self-efficacy is the self-regulated perception about capabilities on a specific task or event. Initially self-efficacy was presented as a behavior change technique and internal processing was not considered. However, it has since been recognized as a complex social cognitive process (Bandura, 1997). The current social cognitive theory posits individuals are agents who process external stimuli, explore, manipulate, and influence their environment (Berry, 2003). Beliefs about abilities develop through a set of

experiences in context such as mastery experiences (past performances), vicarious experiences (social models), verbal persuasion (encouragement), and physiological factors (e.g., anxiety, stress) (Bandura, 1997). People's beliefs about their capabilities do not necessarily match their actual capabilities. In fact, research has found that people tend to overestimate their academic abilities (Bandura, 1997). However, self-efficacy is associated with choice of activities, effort, and persistence in a task, which increases proficiency in a task (Artino, 2012).

LaFromboise and colleagues (1993) reviewed the psychological impact of biculturalism and developed a model of bicultural competence. LaFromboise's model of bicultural competence includes six dimensions: Knowledge of Cultural Beliefs and Values, Positive Attitudes toward Both Groups, Bicultural Efficacy (the belief that a person can function effectively within two cultures), Communication Ability (ability to communicate effectively with people in two cultural groups), Role Repertoire (the range of culturally appropriate behaviors), and Social Groundedness (social networks in both cultural groups) (LaFromboise et al., 1993). This model is based on the alternation model, a bidimensional model that states that an individual can be effective member of two cultures. The six dimensions of the construct were identified as acquirable skills necessary to be competent in a second culture, while remaining competent in the culture of origin. LaFromboise's model of bicultural competence allows researchers to focus on the relationship between perceived bicultural competence and effectiveness in different social environments (LaFromboise et al., 1993).

Perceived bicultural competence, or ability to be bicultural, is bicultural self-efficacy. David and colleagues (2009) hypothesized that bicultural self-efficacy is related to positive psychological well-being and mental health. The

researchers addressed the lack of a preexisting measure of bicultural self-efficacy by developing a measure, prior to testing the hypothesis. A series of three studies were conducted to ensure the validity of the measure and address the hypothesis (David et al., 2009). The measure included questions about perceived competence in the six dimensions of bicultural competence (LaFromboise et al., 1993). The results of the three studies provided evidence for the reliability and validity of the Bicultural Self-Efficacy Scale (*BSES*). Further, the results indicated that Hispanic students with high bicultural self-efficacy had higher psychological well-being and fewer depressive symptoms than students with low bicultural self-efficacy. This study provides evidence that bicultural self-efficacy is a valid measure of the degree of effectiveness at being bicultural (David et al., 2009).

Academic Self-efficacy

Academic self-efficacy is the perceived ability to successfully perform academic tasks and is associated with the effort and persistence students put into an academic task (Artino, 2012). Students with higher self-efficacy have been found to be more successful in school than those with lower self-efficacy (Gore, 2006). This finding can be explained by the most influential source of self-efficacy: mastery experiences. People's past experiences provide evidence that they are capable of completing the task. However, self-efficacy does not increase if an individual only completes difficult tasks. An appropriate level of difficulty is required to develop self-efficacy (Bandura, 1986). After self-efficacy is developed, difficult tasks will not compromise self-efficacy but rather be viewed as challenges that require more effort. Successful experiences increase an individual's beliefs about his or her capabilities in a specific domain (Cervone, 2000).

Furthermore, a meta-analysis of 100 empirical studies found that of nine psychosocial constructs (achievement motivation, academic goals, institutional commitment, perceived social support, social involvement, general, self-concept, academic-related skills, and contextual influences) academic self-efficacy was the strongest predictor of a college student's academic achievement and performance (Robbins et al., 2004). Prior literature has established a strong relationship between students' self-efficacy beliefs and their academic performance and persistence in college (Kahn & Nauta, 2001; Lopez, Lent, Brown, & Gore, 1997; Pajares & Miller, 1995). Results of these studies are consistent in finding that self-efficacy has positive effects on academic achievement. However, previous studies often utilized a variety of scales that measured different dimensions of the self-efficacy construct (Gore, 2006). Recent studies have focused on the *academic* dimension of self-efficacy and its relationship to academic achievement.

Robbins et al. (2004) conducted a meta-analysis of 109 studies in order to create a multidimensional scale for predicting college student success. The quantitative study focused on the relationship between psychosocial and study skills and college outcomes. Results of the meta-analysis suggest that academic self-efficacy may account for up to 14% of the variance in grade point average of college students (Robbins et al., 2004). The researchers also found a strong correlation between academic self-efficacy and college persistence. Robbins and colleagues (2004) concluded that academic self-efficacy predicted GPA and college persistence more accurately than high school performance and standardized test scores.

Gore (2006) conducted two empirical studies to examine the extent to which academic self-efficacy beliefs accounted for variance in college outcomes beyond standardized test scores. In the first study, 629 first-year college students

were asked to complete two academic self-efficacy questionnaires and measures of academic performance (GPA, ACT scores) were obtained. In the second study 7,956 college students from 25 colleges and universities completed the Academic Self-Confidence scale and their ACT scores were obtained from the ACT research database. The results of the 2-year long studies indicate that academic self-efficacy strongly predicts academic performance and persistence in college. Students with higher self-efficacy perform better in college and reenroll each semester (Gore, 2006).

Gore (2006) found that although academic self-efficacy was related to academic performance, it was a relatively weak predictor when students were assessed in the beginning of their first semester. Gore suggested that students need feedback on their performance before they can assess their ability in college academics. Student self-efficacy at the end of the first semester or second semester provided a more accurate predictor for academic performance. Gore suggested that the first semester in college is a critical time to promote academic self-efficacy for incoming college students. Further, Hispanics only made up 2% of the sample and the majority of the participants were non-Hispanic Caucasian. It is important to examine the relationship between academic self-efficacy and academic performance of Hispanic students.

Zajacova et al. (2005) conducted a study that focused on the impact of academic self-efficacy and stress on the academic achievement of Hispanic college students. The purpose of the study was to determine the direction of the relationship between academic self-efficacy and stress in Hispanic students. The primary research question was the combined effect academic self-efficacy and stress have on grades, credits, and persistence. The participants, 107 freshman college students, completed a self-report questionnaire to measure academic self-

efficacy and perceived stress. Students' GPA and enrollment data were obtained from the university. Zajacova and colleagues predicted that Hispanic students' stressors related to their acculturation would have an effect on their academic outcomes. Contrary to the hypothesis, the study indicated that stress was not significantly correlated with GPA or college credits. Consistent with previous studies, stress and academic self-efficacy were negatively correlated among Hispanic students (Torres & Solberg, 2001). Students with higher self-efficacy had lower stress. Zajacova et al. did not find self-efficacy to be a strong predictor of persistence in college. However, the study measured persistence by reenrollment the following semester. The study did not consider students taking a semester off or transferring to another college or university. The primary results of the study indicated that academic self-efficacy was the single strongest predictor of GPA in Hispanic students even when considering demographic factors (i.e., age, sex) and high school academic performance. The researchers also found that recent immigrants had a higher GPA than immigrants with more U.S. school experiences and native-born Hispanic students (Zajacova et al., 2005). It is uncertain if this result was indicative of a better education, higher motivation, or a benefit of biculturalism.

Academic self-efficacy has been shown to be a strong predictor of academic achievement (Gore, 2006). For college students, academic self-efficacy has a significant impact on academic performance and is associated with college persistence (Robbins et al., 2004). Previous research has included limited samples of Hispanic students. In one study with Hispanic participants it was found that academic self-efficacy is a stronger predictor than demographic factors and previous academic performance (Zajacova et al., 2005). The effects of academic

self-efficacy on academic achievement should be further examined among Hispanic college students.

The low educational attainment of Hispanic students reveals the need to increase their academic achievement and educational attainment. Academic self-efficacy is strongly associated with academic performance (Robbins et al., 2004). It is a stronger predictor of academic achievement and college persistence than high school performance, standardized test scores, or stress (Robbins et al., 2006). Self-efficacious people engage in difficult tasks and persevere because they view difficult tasks as challenges and set high standards for themselves (Artino, 2012; Zimmerman, Bandura, & Martinez-Pons, 1992). Previous studies have indicated the same benefits of self-efficacy on academic achievement for Hispanic students, suggesting that academic self-efficacy predicts GPA of Hispanic students (Torres & Solberg, 2001; Zajacova et al., 2005). The current study aims to provide further evidence of the relationship between academic self-efficacy and academic achievement of Hispanic students.

Hispanic students experience additional stressors related to the acculturation process that may have an effect on their academic performance (Santiago et al., 2014). Biculturalism is a protective factor that promotes better psychological adjustment, lower acculturative stress, higher grades, and overall higher academic performance (Nguyen & Benet-Martinez, 2013). Students who are bicultural have increased academic successes (López et al., 2002). Benefits of having two cultures include social support and a strong cultural identity. The current study predicts that a highly bicultural student will have higher academic achievement than a student who is less bicultural.

Despite the extensive research on the benefits of academic self-efficacy, there is limited research on their combined effect when bicultural self-efficacy is a

moderator variable on academic performance of Hispanic students. Past research on the topic has focused on language preference and language practices (Buriel, Perez, Terri, Chavez, & Moran, 1998; Walsworth-Velasquez & Doughtery, 2015). A bidimensional view has been proven to be the most representative of the complexity of the acculturation process (Nguyen & Benet-Martinez, 2013). The current study focuses on academic achievement of Hispanic students while considering acculturation factors and outcomes by using a bidimensional approach to answer the following research questions. First, is academic self-efficacy associated with academic achievement of Hispanic students? Second, is bicultural self-efficacy associated with academic achievement of Hispanic students? Third, is there an interaction effect of academic self-efficacy and bicultural self-efficacy on academic achievement of Hispanic students? Specifically, does bicultural self-efficacy moderate the relationship between academic self-efficacy and academic achievement?

Research Hypotheses

The current study had three hypotheses. First, it was hypothesized that academic self-efficacy would be a significant predictor of grade point average of Hispanic students. Because previous research has shown that biculturalism may be positively correlated to academic achievement (Santiago et al., 2014), the second hypothesis was that highly bicultural students would have higher grade point average than students who are less bicultural. Further, given that academic self-efficacy and biculturalism have both been associated with higher academic achievement (Gore, 2006; López et al., 2002), it was hypothesized that there may be an interaction effect of academic self-efficacy and bicultural self-efficacy on academic achievement; for example, the relation between academic self-efficacy

and achievement may be stronger among students with high bicultural self-efficacy because these students may have more resources to cope academically.

CHAPTER 3: METHOD

Participants

The current study used a sample of convenience of 235 late adolescent to emerging adults (ages 18-24; M = 19.06; SD = 1.18 years). The sample was 76% female. Participants were undergraduate students from a university in the southwest region of the United States who self-identified as Hispanic/Latino. Participants were recruited through the online software Qualtrics (2015) and were compensated by course credit toward a psychology college course

Design and Procedure

The current study used a cross-sectional nonexperimental design to assess the independent variables (academic self-efficacy and bicultural self-efficacy) and the dependent variable (academic achievement). Data were collected in the spring semester of 2016 in order to ensure participants were not in their first semester of college (Gore, 2006). The participants completed an online survey through Qualtrics (2015). All participants had access to the questionnaires online from late March to early May of 2016. The online survey included an informed consent form (see Appendix A). The survey took approximately 1 hour to complete. Participants had an opportunity to receive course credit from their professor for participating.

Academic Self-Efficacy

The participants completed a questionnaire to measure academic self-efficacy. The 27-item questionnaire was designed to measure self-efficacy beliefs about college-related behaviors such as studying, doing well on exams, and talking to professors (Appendix B; Zajacova et al., 2005). The questionnaire was designed

to measure perceived self-efficacy regarding academic tasks, including reading, note taking, test-taking, writing, and studying. The items include statements that describe self-regulation strategies in academic functioning and learning. Participants answered the following question: "How confident are you that you can successfully complete these tasks?" (see Appendix B). The responses were answered on a 10-point scale, from 0 (*not at all confident*) to 10 (*extremely confident*). The scale included four factors of self-efficacy: interaction at school; performance out of class; performance in class; and managing work, family, and school. The scale has high Cronbach's α for the indices ranging from .77 to .90: interaction at school (α = 0.87), performance out of class (α = 0.90), performance in class (α = 0.87), managing work/family/school (α = 0.77), which indicated that the items are highly correlated with each other. The authors reported moderate to high discriminant validity between the scale and an academic stress scale, with negative correlations between items ranging from -0.27 to -0.71 (Zajacova et al., 2005).

Biculturalism

Participants completed the Bicultural Self-Efficacy Scale (*BSES*) in order to assess levels of perceived biculturalism (David et al., 2009). The 26-item questionnaire included six factors of biculturalism: Social Groundedness (7 items), Communication Ability (4 items), Positive Attitudes Toward Both Groups (4 items), Knowledge of Cultural Beliefs and Values (4 items), Role Repertoire (3 items), and Bicultural Beliefs (4 items). The responses were on a 5-point Likert-type scale (strongly disagree, disagree, neutral, agree, strongly agree) (Appendix C). The scale has high internal consistency of scores in the six factors: Social Groundedness (α = .91); Communication Ability (α = .79); Positive Attitudes

toward Both Groups (α = .89); Knowledge of Cultural Beliefs and Values (α = .80); Role Repertoire (α = .69); and Bicultural Beliefs (α = .77). Construct validity of the BSES was supported with low to moderate positive correlations with other similar measures. The scale has shown test-retest stability over a 2-week period (David et al., 2009). For the current study, the full bicultural self-efficacy score was used in data analyses. Given the small sample size and the range of internal consistency coefficients for the subscales, the full scale provided maximum reliability.

Academic achievement was measured through self-reported current GPA. Participants were asked to report their current grade point average in the online questionnaire.

CHAPTER 4: RESULTS

Preliminary Analyses

Descriptive analyses were conducted on the observed variables to assess their normal distribution. Preliminary analyses examined standard deviation, mean, minimum, and maximum scores to ensure no outliers and no missing values. Skewness values between -1.0 and 1.0, and kurtosis values of less than 3.0 are considered to be within normal parameters. The measured variables had relatively normal distributions, with skewness values between -.30 and .13 and kurtosis values between -.24 to -.13 (see Table 1).

Table 1

Descriptive Statistics of Measured Variables

Variable	Min.	Max.	Mean	SD	Skewness	Kurtosis	Cronbach's Alpha	Items
Bicultural SE	2.55	5.00	3.82	.54	.13	-.24	.94	26
Academic SE	2.93	10.93	7.50	1.48	-.30	-.13	.96	27
GPA	1.00	4.00	2.96	.65	-.56	.18		

Primary Analyses

After confirming that the continuous variables had normal distributions, the variables were standardized prior to conducting regression analyses to facilitate interpretation. The scores were centered to have a mean of 0 and a standard deviation of 1.00.

In order to analyze and evaluate the relationships between academic self-efficacy, bicultural self-efficacy, academic achievement and control variables, a Pearson product-moment correlation coefficient was computed to assess the relationships (see Table 2). There was a positive correlation between academic

self-efficacy and grade point average, $r = .34$, $n = 228$, $p < .001$. According to Cohen (1988), this suggests a moderate effect size. This correlation supports previous research on the relationship between academic self-efficacy and academic achievement (Gore, 2006). There was a positive correlation between bicultural self-efficacy and grade point average, $r = .20$, $n = 229$, $p < .003$, which suggests a small effect size. This correlation supports previous research on the relationship between biculturalism and academic achievement (Nguyen & Benet-Martinez, 2013).

Next, regression analyses were conducted to determine if academic achievement could be predicted by academic self-efficacy, bicultural self-efficacy, and the interaction between biculturalism and academic self-efficacy. Control variables that were significantly correlated to the predictor variables were included as in the regression analyses. For all regression analyses, household income and high school GPA were included in the models as control variables. The analyses were performed by using SPSS (Version 23).

First, a statistically significant regression equation, F (3, 224) = 23.07, $p <$ .001, indicated that academic self-efficacy individually predicted college GPA, $b =$ .177, $SE = .039$, $\beta = .272$, $p < .01$. Second, a statistically significant regression equation, F (3, 225) = 17.57, $p < .001$, indicated that bicultural self-efficacy predicted college GPA, $b = .102$, $SE = .039$, $\beta = .157$, $p < .01$. Third, a regression equation was computed to predict academic achievement based on academic self-efficacy, bicultural self-efficacy, and the interaction term created by multiplying academic self-efficacy and bicultural self-efficacy. Results indicated that, although the overall regression equation was statistically significant, F (5, 222) = 15.03, $p <$ .001, the interaction term between academic self-efficacy and bicultural self-efficacy was not statistically significant, $b = -.060$, $SE = .035$, $\beta = -.098$, $p > .05$

Table 2

Correlations Among Study Variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Current GPA	1.00									
2. ASE	.34**	1.00								
3. BSE	.20**	.29**	1.00							
4. Age	-.11	.02	.02	1.00						
5. Sex[1]	.05	-.06	.09	-.12	1.00					
6. Income	.24**	.17**	.02	-.13	-.06	1.00				
7. High school GPA	.35**	.14*	.10	-.03	.01	.08	1.00			
8. Birthplace	-.01	.08	-.07	.10	-.11	-.10	-.02	1.00		
9. Birthplace of Mother[2]	-.01	.04	.04	.05	-.05	-.21**	-.02	.20**	1.00	
10. Birthplace of Father[2]	-.05	-.08	.07	.09	.02	-.30**	-.05	.20**	.57**	1.00

CHAPTER 5: DISCUSSION

The Hispanic population is the largest minority group in the United States (US Census Bureau, 2010). In schools, Hispanic students have the highest school drop-out rates (United States Department of Education, 2016). There is an achievement gap between Hispanic students and students of other ethnicities. Students who identify as Hispanic have lower educational attainment represented by lower baccalaureate and post baccalaureate degrees. The low educational attainment of Hispanic students demonstrates a need for information on the factors that affect the academic achievement of this group. Academic self-efficacy and biculturalism are two variables that have been found to independently affect academic achievement.

Academic self-efficacy is a strong predictor of academic performance and is associated with college persistence (Gore, 2006). One study found that academic self-efficacy is a stronger predictor than demographic factors (i.e., age, sex) and previous academic performance among Hispanic students (Zajacova et al., 2005). There is evidence that biculturalism is the most ideal acculturation outcome for Hispanic students whose environmental demands call for proficiency in mainstream and ethnic cultural skills. Hispanic students who are more bicultural had higher academic achievement than less bicultural students (López et al., 2002). Bicultural self-efficacy is a valid measure of an individual's perceived biculturalism (David et al., 2009). There is limited research on the combined effect of these two variables on the academic performance of Hispanic students.

The main research questions in the current study concern the relationship between academic self-efficacy and bicultural self-efficacy and their joint effect on academic success for Hispanic students. The present study evaluated if

academic self-efficacy was associated with academic achievement of Hispanic students, and whether bicultural self-efficacy was associated with academic achievement of Hispanic students. Lastly, this study assessed whether there was a significant interaction effect of academic self-efficacy and bicultural self-efficacy on academic achievement among Hispanic students.

The results yielded a modest correlation between academic self-efficacy and college grade point average. Specifically, there was a statistically significant positive correlation between individuals with high academic self-efficacy and college academic performance (i.e., GPA) with a medium size effect. Further, a regression equation predicting college GPA from academic self-efficacy was statistically significant when controlling for household income and high school GPA. These findings support previous studies regarding the benefits of academic self-efficacy on academic performance of students (Gore, 2006; Robbins et al., 2004; Zajacova et al., 2005). In addition, this study supports consistent findings that high academic self-efficacy is associated with higher academic performance of college students (Robbins et al., 2004, 2006). Further, it supports previous evidence that academic self-efficacy was a stronger predictor of academic performance among Hispanic students even when considering demographic factors (i.e., age, sex) and high school academic performance (Zajacova et al., 2005). The consideration of these findings is critical, given that Hispanics have the highest school drop-out rates and lowest educational attainment in the United States (US Census Bureau, 2016).

Results also yielded a correlation between bicultural self-efficacy, the belief that a person can function effectively within two cultures, and academic performance of Hispanic students. Specifically, there was a statistically significant positive correlation between high bicultural self-efficacy and college academic

performance (i.e., GPA) with a medium size effect. Further, a regression equation predicting college GPA from bicultural self-efficacy was statistically significant, with a statistically significant standardized coefficient for biculturalism, when controlling for household income and high school GPA. A positive correlation between bicultural self-efficacy and academic performance was expected because bicultural competence, or being an effective member of two cultures, is associated with positive outcomes. Previous research suggests that biculturalism is associated with protective factors including coping abilities and strategies among Hispanic students, which can potentially eliminate risk factors and increase positive outcomes (Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012). Bicultural competence can be measured by an individuals perceived bicultural self-efficacy. Consistent with the findings about the benefits of biculturalism on positive psychological outcomes, bicultural self-efficacy has been associated with psychological well-being and mental health (David et al., 2009). The positive effects of biculturalism competence go beyond psychological well-being and impact academic achievement.

A previous study found that bicultural students had higher academic performance than assimilated and marginal individuals. Hispanic students who were bicultural also reported high perceived social support from parents, teachers, and peers (López et al., 2002). Being active members of both cultures allows individuals to build and maintain strong relationships. Further, academic performance is associated with persistence in college, which may lead to an increase in overall educational attainment (Johnson & Molnar, 1996). The current study provides support for the relationship between bicultural self-efficacy and academic achievement among Hispanic students.

Lastly, the present study tested whether an interaction effect existed between academic self-efficacy and bicultural self-efficacy when predicting academic performance. The hypothesis was that bicultural self-efficacy would moderate the relationship between academic self-efficacy and academic achievement in such a way that the relationship would be stronger for students who were highly bicultural than students who were less bicultural. The hypothesis was tested by using a multiple linear regression equation model predicting academic performance by academic self-efficacy, bicultural self-efficacy, an interaction term, and controlling for household income and high school GPA. The results indicated that the interaction was not statistically significant. This could be due to the cross-sectional design, which captures a "snapshot" of participants in that moment, as opposed to a longitudinal design. A study of participants over time could provide more insight of the potential interaction between bicultural self-efficacy and academic self-efficacy on college academic performance.

Although the moderating factor hypothesis was not supported, the current study revealed other interesting findings. Annual family income significantly predicted college GPA when controlling for academic self-efficacy, bicultural self-efficacy, and high school GPA. Income was also positively correlated with academic self-efficacy. Higher household income may be associated with academic self-efficacy because this can influence the perception on the ability to attain further education and less stressors associated with low income. Academic self-efficacy and bicultural self-efficacy were correlated. Hispanic students who reported higher self-efficacy in being bicultural had higher perceived ability on academic tasks. Expected results included the association between high school GPA and current GPA. High school GPA was also positively correlated with

academic self-efficacy, which provides support that the relationship between academic self-efficacy and academic achievement is established before college.

Limitations and Future Research

It is important to interpret the results of this study in the light of some limitations. One limitation is the cross-sectional data. Further studies should collect data over a period of time to assess the effects of bicultural self-efficacy and academic self-efficacy on academic performance of college students. The current study used data collected with self-report measures at one moment in time. An important limitation of the current study, apart from the modest sample size, is the non-experimental nature of the study. Another limitation is the question of representativeness of the sample. All participants were college students of one university who enrolled in an Introductory Psychology class during spring semester. Further studies should include a sample of participants in advanced courses and multiple disciplines, and in other settings.

Despite the limitations, the current study provided important contributions. It provided additional support for academic self-efficacy as a predictor of academic achievement. It added to the limited research on bicultural self-efficacy and its potential effects on academic performance of Hispanic students. A strength of the current study is the consideration of current GPA, age, gender, birthplace, mother birthplace, father birthplace, and household income. Control variables that were significantly correlated with the predictor variables (i.e., high school GPA, household income) were included as controls in all regression analyses. The findings of the current study may support the development of interventions to increase academic self-efficacy. The programs should include the four sources of self-efficacy: mastery experiences (past performances), vicarious experiences

(social models), persuasion (encouragement), and physiological factors (e.g., anxiety, stress) (Bandura, 1997). Curricula to increase self-efficacy should ensure individuals are provided mastery experiences, adequate demonstrations from role models, and have encouraging educators (Bandura, 1986; Torres & Solberg, 2001). Although higher academic self-efficacy should be encouraged in all students, programs to increase academic self-efficacy may specifically be beneficial for students of low income households. The current study may support the development of programs to increase bicultural skills such as culture-based curriculums. The program should detail the importance of diversity and participating in the ethnic culture, and be implemented in educational settings. Future studies should investigate more closely the impact of self-efficacy on academic performance of Hispanic students.

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APPENDICES

APPENDIX A: INFORMED CONSENT

Dear participant: You are being invited to participate in a research study about culture and college experiences. This research project is being conducted by Dr. Carlos Calderón of California State University, Fresno. The objective of this research project is to expand our knowledge on how culture (beliefs, values, behaviors, and experiences) are related to psychological outcomes for college students of Latino origin, including life satisfaction, mental health, academic ability beliefs, among others. You are being invited to complete an online survey about these topics, with a duration of approximately one hour. There are no known risks if you decide to participate in this research study. The information you provide will help us understand some aspects of Latino college experiences. The information collected may not benefit you directly, but what we learn from this study should provide general benefits to future students. This survey is anonymous. If you choose to participate, do not provide your name in the survey. No one will be able to identify you, nor will know whether you participated in this study. Nothing you say in the survey will in any way influence your present or future status as a student. Your participation in this study is voluntary. If you choose to participate, please complete the online survey. If you have any questions or concerns about completing the survey or about this study, you may contact Dr. Calderón at (559) 278-7514 or at ccalderon@csufresno.edu. The Department of Psychology at California State University, Fresno Committee on the Protection of Human Subjects has reviewed this research protocol. If you have any concerns about your rights in this study, please contact Dr. Constance Jones at (559) 278-2691. Thank you for your participation.

APPENDIX B: ACADEMIC SELF-EFFICACY SCALE

Please answer how confident you are that you can successfully complete these tasks:

Studying

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Asking questions in class

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Keeping up with the required readings

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Understanding my professors

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Writing term papers

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

My parents' expectations of my grades

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

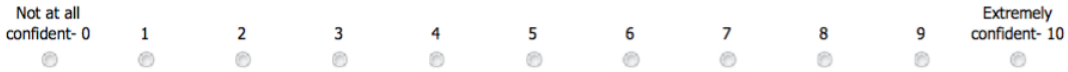
Making friends at school

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

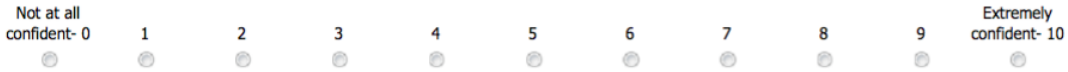
Doing well on exams

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Getting papers done on time

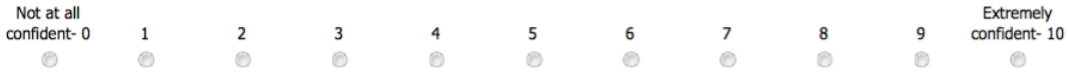


Having more tests in the same week



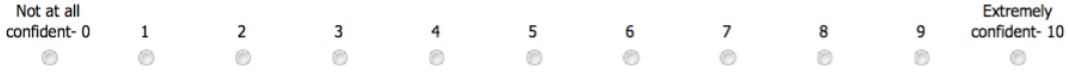
Taking good class notes

Managing both school and wor

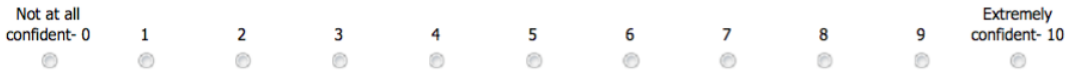


Preparing for exams

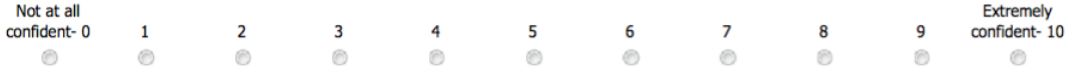
Managing time efficiently



Getting along with family members



Improving my reading and writing skills



Researching term papers

Getting the grades I want

Having enough money

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Talking to my professors

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Getting help and information at school

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Doing well in my toughest class

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Talking to college staff

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Finding time to study

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Understanding my textbooks

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Participating in class discussions

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

Understanding college regulation

Not at all confident- 0	1	2	3	4	5	6	7	8	9	Extremely confident- 10
○	○	○	○	○	○	○	○	○	○	○

APPENDIX C: BICULTURAL SELF-EFFICACY SCALE

Please answer each statement as carefully as possible. Please select one of the options below each statement to indicate your degree of agreement or disagreement.

I can count on both mainstream Americans and people from the same heritage culture as myself.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

I can develop new relationships with mainstream Americans as well as people from the same heritage culture as myself.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

I feel comfortable attending a gathering of mostly mainstream Americans as well as a gathering of mostly people from the same heritage culture as myself.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

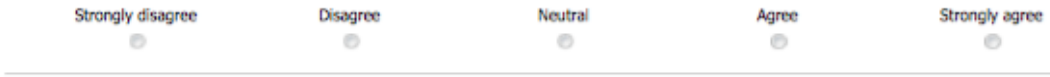
I have strong ties with mainstream Americans as well as people from the same heritage culture as myself.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

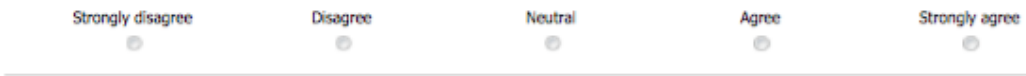
I feel at ease around both mainstream Americans and people from the same heritage culture as myself.

Strongly disagree | Disagree | Neutral | Agree | Strongly agree

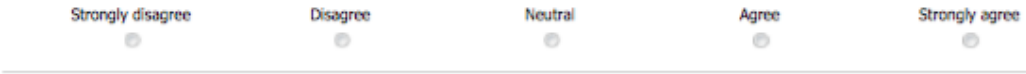
I have an extensive network of mainstream Americans as well as an extensive network of people from the culture as myself.



I feel like I fit in when I am with mainstream Americans and people from the same heritage culture as myself.

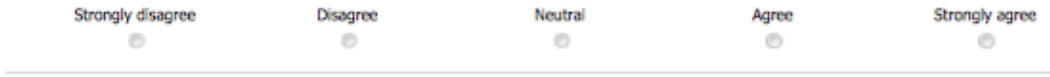


I can communicate my ideas effectively to both mainstream Americans and people from the same heritage culture as myself.

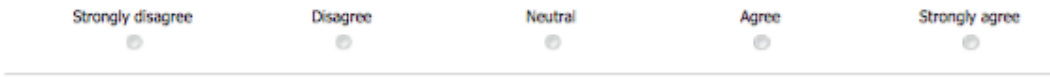


I can communicate my feelings effectively to both mainstream Americans and people from the same heritage as myself.

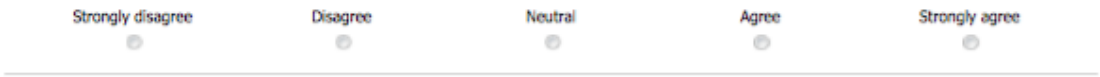
I am proficient in both standard English and the language of my heritage culture (e.g., Spanish).



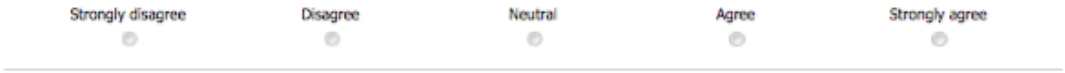
I can switch easily between standard English and the lanague of my heritage culture (e.g., Spanish).



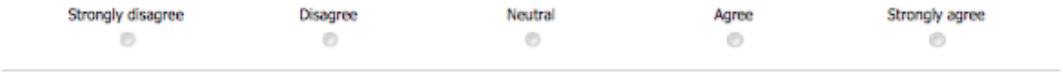
I have generally positive feelings about both my heritage culture and mainstream American culture.



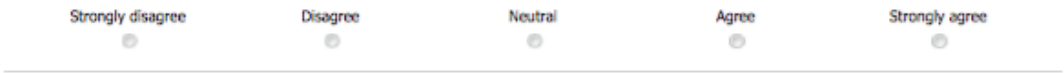
I have generally positive attitide toward both mainstream Americans and my cultural group.



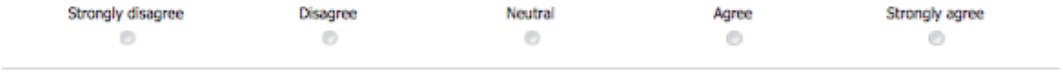
I have respect for both mainstream American culture and my heritage culture.



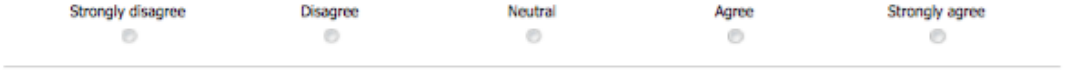
I take pride in both the mainstream American culture and my heritage culture.



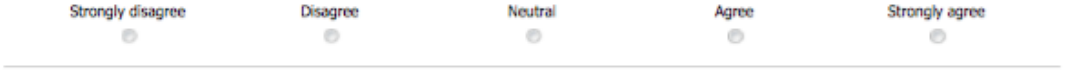
I am knowledgeable about the history of both mainstream America and my culture group.



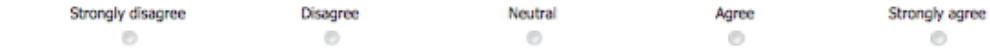
I am knowledgeable about the values important to mainstream America as well as to my cultural group.



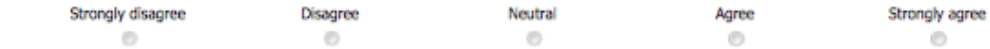
An individual can alter his or her behavior to fit a particular social context.



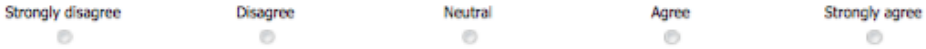
I can choose the degree and manner by which I affiliate with each culture.



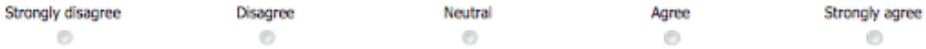
I am confident that I can learn new aspects of both the mainstream American



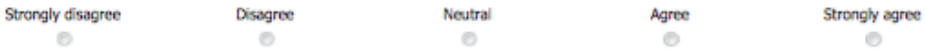
It is acceptable for an individual from my heritage culture to participate in two different cultures.



It is acceptable for a mainstream American individual to participate in two different cultures.



Being bicultural does not mean I have to compromise my sense of cultural identity.



It is possible for an individual to have a sense of belonging in two cultures without compromising his or her sense of cultural identity.