

## Examining Relations Between Bicultural Efficacy, the Big Five Personality Traits, and Psychological Well-Being in Bicultural College Students

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**ABSTRACT.** Bicultural efficacy—the belief people have in confidently navigating between their cultures of origin and mainstream culture—can contribute to the positive development of bicultural individuals through strengthening support systems and protecting against risk factors. The current study aimed to examine which personality traits were correlated with bicultural efficacy and how bicultural efficacy can affect psychological outcomes in emerging adults in college. Self-identified bicultural college students ( $N = 152$ , 71% women) between the ages of 18–25 ( $M = 19.9$ ) completed an online survey assessing personality, bicultural efficacy, and psychological outcomes (depressive, anxiety, and stress symptoms). Correlational analysis revealed that the Big Five Inventory personality traits of agreeableness ( $r = .27$ ,  $p = .01$ ) and neuroticism ( $r = -.25$ ,  $p = .03$ ) were significantly related to bicultural efficacy. Hierarchical regression analysis showed that, (a) controlling for personality traits, bicultural efficacy was positively associated with psychological well-being ( $\eta^2 = .03$ ,  $b = .12$ ,  $p = .04$ ) and (b) bicultural efficacy reduced the negative effects of depressive and anxiety symptoms on well-being ( $\eta^2 = .12$ ,  $b = .26$ ,  $p < .001$ ). Bicultural efficacy can be a protective factor by decreasing symptoms of psychological maladjustment in college students. Implications of these findings in relation to parenting, teaching, and mental health counseling are discussed.

Bicultural individuals are those who have internalized knowledge from two different cultural systems (Hong, Morris, Chiu, & Benet-Martínez, 2000). The period of emerging adulthood—between the ages of 18 and 25—is characterized by identity exploration, which may be a challenging developmental stage for college students who are bicultural (Phinney, 2006). Compared to their monocultural peers, bicultural college students face more difficulties resulting from the transition to a new cultural environment such as a mismatch between personal and university values, racial discrimination, and challenges maintaining ties to heritage communities (Carter, Locks, & Winkle-Wagner, 2013; Pieterse, Carter, Evans, & Walter, 2010; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). These struggles

can manifest as increased internalizing symptoms and antisocial behavior (Arbona & Jimenez, 2014; Miller, Yang, Farrell, & Lin, 2011; Park, Schwartz, Lee, Kim, & Rodriguez, 2013).

Because bicultural college students are projected to become the majority of the U.S. college student population (National Center for Education Statistics, 2015), and college settings are crucial for bicultural college students' identity development (Arnett, 2000), there is a need to examine factors that may contribute to their positive development. Recent research has revealed that bicultural efficacy could be one of those factors (Nguyen & Benet Martínez, 2007; Wei et al., 2010). Bicultural efficacy is defined as "the belief, or confidence, that one can live effectively, and in a satisfying manner, within two groups without compromising one's sense of

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cultural identity” (LaFromboise et al., 1993, p. 404). Few studies have examined dispositional factors such as personality that contribute to the identity development of bicultural college students, and how bicultural efficacy specifically relates to well-being. Thus, the aims of the current study were to examine personality correlates of bicultural efficacy, and to understand how bicultural efficacy relates to bicultural college students’ psychological well-being.

### Bicultural College Students

By the year 2035, half of the children in the United States are projected to be part of immigrant families (Hernandez, 2004). Additionally, the racial identification of college students in the United States is becoming increasingly diverse. According to the National Center for Education Statistics (2015), the percentage of students identifying as American Indian/Alaskan Native, Asian/Pacific Islander, Black, or Hispanic continuously increased from 1976 to 2012. Additionally, previous research has revealed that college students from nondominant ethnic/racial groups<sup>1</sup> implicitly identify with more than one culture, suggesting that most U.S. college students hold a bicultural or multicultural identity (Brannon, Markus, & Taylor, 2015; Devos, 2006; Kirmayer, 2006; Park et al., 2013).

Previous research has revealed that bicultural college students face unique types of stress compared to their monocultural peers. Along with general stressors faced by most college students including academic demands, relationship issues, and financial problems, bicultural college students additionally experience stress associated with their racial-ethnic minority status, called *minority stress* (Smedley, Myers, & Harrell, 1993). Some of these stressors include racial discrimination, a lowered sense of belongingness, and difficulty maintaining relationships with family at home. Furthermore, these stressors can contribute to maladaptive behaviors. For example, Park et al. (2013) revealed a positive association between perceived discrimination and antisocial behavior in Asian American college students. Additionally, in a study examining Latino/a college students, Arbona and Jimenez (2014) found that, along with reports of general college stress, amount of minority stress significantly contributed to depression. These results reveal that

<sup>1</sup> Nondominant ethnic/racial groups refer to groups who are not the dominant ethnic/racial group (i.e., White) in the United States. The ethnic/racial minority classification may be inaccurate for some groups who are a majority population in certain regions (e.g., Hawaii having an Asian plurality)

bicultural college students face unique stressors that contribute to internalizing and externalizing symptoms of behavior. Thus, the majority of U.S. college students identify as bicultural and these students experience unique types of stress related to their bicultural status. Consequently, it is important to understand factors that can contribute to their psychological well-being such as bicultural efficacy.

### Bicultural Efficacy

Biculturalism theory focuses on both individual (e.g., personality, behavior) and contextual (e.g., social structures, environment) aspects of bicultural identity development (LaFromboise, Coleman, & Gerton, 1993). According to this theory, bicultural efficacy is a particularly important factor in the psychological well-being of bicultural college students who frequently transition between and operate in two cultures (LaFromboise et al., 1993). It consists of six dimensions: social groundedness (having a well-developed social system); verbal and nonverbal communication ability; positive attitudes toward both cultures; knowledge of cultural history, institutions, and practices; role repertoire (ability to exhibit culturally appropriate behaviors); and bicultural beliefs regarding identifying with both cultures without compromising one’s cultural identity. Previous research examining behaviors of adolescents and college students indicative of bicultural efficacy (e.g., confidence in speaking English, ability to respond appropriately in different situations) revealed that these behaviors are important in developing one’s bicultural identity (Benet-Martínez & Haritatos, 2005; Buriel, Perez, de Ment, Chavez, & Moran, 1998).

Although the construct of bicultural efficacy was proposed in the early 1990s, it was only in the late 2000s after the development of the Bicultural Self-Efficacy Scale that it began being measured (David, Okazaki, & Saw, 2009). Their scale was used in a few studies examining the relation between bicultural efficacy and psychological adjustment variables. Results from some of the studies reveal that high bicultural efficacy can help protect bicultural individuals against rejection from one or both of their cultural groups. It has also been found to be related to mental health outcomes in bicultural college students such as psychological well-being, anxiety, depression, and life satisfaction (David et al., 2009; Miller et al., 2011). In a study of Asian American, Latino/a American, and African American students attending a predominantly White Midwest university, Wei et al. (2010) found

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that bicultural efficacy buffered the effect of minority stress on depressive symptoms. Altogether, these studies point to the potential coping effect of bicultural efficacy in response to minority stress, and support biculturalism theory's emphasis on the importance of bicultural efficacy for well-being.

### **Biculturalism and Personality**

Clearly, bicultural efficacy is important to the psychological well-being of individuals who identify with two different cultures. However, more information is needed in order to further understand individual antecedents that may contribute to bicultural efficacy, particularly personality. In describing their integrative framework of personality, McAdams and Pals (2006) asserted the relevance of examining personality traits—particularly the Big Five factors (openness, conscientiousness, extraversion, agreeableness, and neuroticism)—in relation to examining variations in human functioning such as psychological well-being (Grant, Langan-Fox, & Anglim, 2009). The Big Five personality characteristics have been validated crossculturally (John & Srivastava, 1999), been used in previous assessments relating personality and well-being (Steel, Schmidt, & Shultz, 2008), and used in previous studies with bicultural college students (Worrell & Cross, 2004). According to McAdams and Pals (2006), personality traits are dispositional traits that can impact characteristic adaptations: how individuals think, behave, and adapt to certain situations. Additionally, culture also plays a role in the relation between dispositional traits because the goals and values of a particular culture may influence characteristic adaptations. Thus, it is useful to understand how the two cultures of bicultural individuals may play a role in their personality, and which personality traits are more pronounced in this population.

However, current research has not yet examined the relation between personality traits and bicultural efficacy. Because bicultural efficacy is also a behavioral variable, personality may play a role in how well a bicultural individual develops efficacy. Examining personality correlates of bicultural efficacy will provide an in-depth understanding of the dispositional factors of bicultural efficacy, and will help develop insight into how individuals with bicultural efficacy respond to, interpret, and evaluate their experiences.

### **Present Study**

Overall, past research has demonstrated the multi-dimensional aspects of biculturalism and how it can

vary due to an individual's different psychological experiences, personality characteristics, and contextual pressures (Benet-Martínez & Haritatos, 2005; LaFromboise et al., 1993). In the case of bicultural college students, bicultural efficacy is related to mental health outcomes such as psychological well-being, life satisfaction, depression, and anxiety (David et al., 2009; Wei et al., 2010). Thus, it is an important construct to consider in examining the positive development of bicultural college students. Drawing on biculturalism theory (LaFromboise et al., 1993) and the Big Five principles of personality (McAdams & Pals, 2006), the current study had the following aims: (a) to examine personality correlates of bicultural efficacy, and (b) to examine how bicultural efficacy predicts psychological symptoms of depression, anxiety, and stress, along with well-being. Results will help determine how personality contributes to bicultural efficacy, and provide additional support for the potential benefit of bicultural efficacy to bicultural college students' psychological adjustment.

**Hypotheses.** Based on the review of the literature, the following hypotheses were constructed for the two research aims. First, bicultural efficacy was expected to be correlated with neuroticism and openness to experiences. Additionally, agreeableness was anticipated to be correlated with bicultural efficacy because agreeableness involves being cooperative, considerate, and trustful, which are three traits relevant to the social groundedness dimension of bicultural efficacy (David et al., 2009). Second, controlling for personality characteristics, bicultural efficacy was expected to be positively associated with psychological well-being. Third, in the relationship between internalizing symptoms (i.e., depression, anxiety, stress) and psychological well-being, bicultural efficacy was expected to reduce the negative effect of internalizing symptoms on psychological well-being.

## **Method**

### **Participants**

Undergraduate students between the ages of 18 and 25 who self-identified as bicultural were recruited from a medium-sized, private university in the United States. Data reported by the university state that, in fall 2015, enrollment by ethnic group for all undergraduate students was 43% European American, 23% Asian, 8% African American, 8% International, 7% Mexican/Chicano, 6% Other Hispanic, 2% Native American, 2% Other/declined to state, and 1% Native Hawaiian/Pacific Islander.

Regarding sex, 47% women and 53% men were enrolled.

In total, 225 students responded to the survey. The criterion for inclusion in this study was an affirmative answer to the following question:

Do you consider yourself to be bicultural or multicultural? *Bicultural* in the context in this survey means that you consider yourself part of two different cultures (e.g., At home, your family practices traditions and actions that are part of Hispanic culture, while at school you are part of the mainstream American culture). *Multicultural* means that you consider yourself part of more than two cultures.

Students were provided another example of a bicultural identity (Vietnamese-American) when asked to further describe which cultures make up their identity (Vietnamese and American). The number of self-identified bicultural and multicultural students was 165. After data cleaning and removing outliers using the median absolute deviation method (Leys, Ley, Klein, Bernard, & Licata, 2013), responses from 152 students were analyzed (96% response rate, AAPOR RR2)<sup>2</sup>.

Participants' mean age was 19.96 ( $SD = 1.51$ ). A total of 32 majors were represented in the sample. The top seven represented majors were undeclared (20%), human biology (13%), biology (7%), computer science (6%), symbolic systems (5%), international relations (4%), and political science (4%). Students at this university typically declare a major during the middle of their sophomore year, which explains the high percentage of "undeclared" students in the sample. In the sample, 53 students (35%) were enrolled as first-year students, 35 (23%) as sophomores, 29 (19%) as juniors, and 35 (23%) as seniors.

Regarding sex, 107 students (70%) identified as women and 45 (30%) identified as men. This study collected information about ethnic group identification through a categorical method currently used by the U.S. Census. The most represented ethnic group of students in the sample was Asian at 74 (49%), followed by 31 Hispanic/Latino students (20%), 22 students who identified as "Other" (14%), eight American Indian/Alaskan Native students (5%), eight Black students (5%), five White students (3%), and one Native Hawaiian/Pacific Islander student (1%). Because Asian students are the largest represented minority group in this university setting

(23%), the larger amount of Asian students in this sample positively correlates with the university population. Three students (2%) preferred not to report their ethnicity. Of the Asian students, Korean and Chinese were the most represented ethnic groups.

### Measures

All measures in the study were distributed in English. For full versions of previously developed scales, see the respective citation in the scale description.

**Demographic information.** Participants provided descriptive information including their age, sex, class standing, international student status, ethnic group affiliation, bicultural status, mother's educational level, and father's educational level. This information was obtained in order to control for extraneous effects of demographic variables.

**Bicultural efficacy.** The Bicultural Self-Efficacy Scale (David et al., 2009) is a 26-item questionnaire measuring bicultural efficacy. The items are grouped into six main dimensions: social groundedness, communication ability, positive attitude, knowledge, role repertoire, and bicultural beliefs. Participants evaluated their feelings about a certain statement on a Likert-type scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). Sample items included: "An individual can alter his or her behavior to fit a certain context" (role repertoire), "I have generally positive feelings about both my heritage culture and mainstream American culture" (positive attitude), and "I can count on mainstream Americans and people from the same heritage culture as myself" (social groundedness). The Bicultural Self-Efficacy Scale has been found to be reliable in previous research with ethnic minority college students (David et al., 2009; Wei et al., 2010). The Cronbach's  $\alpha$  coefficient for the scale was .91.

**Big Five Inventory.** The Big Five Inventory (BFI; John & Srivastava, 1999) is a 44-item self-report survey used to measure the following personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism. Participants selected how much a certain characteristic applied to them on a scale from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items included: "is talkative," "tends to be disorganized," and "has an active imagination." The BFI has been found to be reliable in research with ethnic minority college students (Benet-Martínez & Haritatos, 2005; Worrell & Cross, 2004). The Cronbach's  $\alpha$  coefficients for each subscale in the current study were .75 (openness),

<sup>2</sup> Removal of outliers did not impact significance of results



.79 (conscientiousness), .86 (extraversion), .80 (agreeableness), and .85 (neuroticism).

**Depression, anxiety, and stress.** The Depression Anxiety Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995) is a 21-item version of the original 42-item DASS, and was used to measure the severity of participants' symptoms common to depression (low positive affect), anxiety (fear of negative events), and stress (consistently in a high arousal state). This scale is used to report the occurrence of behaviors and attitudes related to depression and anxiety diagnoses, rather than provide a clinical diagnosis of a mental health disorder. Although the terms *depression* and *anxiety* were used throughout the study, they refer to symptomology rather than diagnoses. Participants indicated how much a certain behavior or attitude applied to them in the last week on a scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). Example items included: "I found it difficult to work up the initiative to do things," "I felt down-hearted and blue," and "I couldn't seem to experience any positive feeling at all." The DASS-21 has been found to be reliable in research with ethnic minority individuals and college students (Mahmoud, Staten, Hall, & Lennie, 2012; Norton, 2007). The  $\alpha$  coefficient for each subscale was .92 (depression), .88 (anxiety), and .80 (stress). Each subscale contained seven items.

**Psychological well-being.** The 18-item version of the Ryff Well-Being Scale (Ryff, 1989) was used to measure psychological well-being, a multifaceted concept that includes positive feelings of autonomy, self-acceptance, personal growth, personal relationships, environmental mastery, and purpose in life. Participants rated how much they agreed with a particular statement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Example items included: "I am quite good at mastering the many responsibilities of my daily life," and "The demands of everyday life often get me down" (reverse-coded). Only the total well-being score was used in the analysis for this study, as recommended by Springer and Hauser (2006). This scale has been found to be reliable in research with college students from nondominant ethnic groups (Gloria, Castellanos, & Orozco, 2005; Paradise & Kernis, 2002). The Cronbach's  $\alpha$  coefficient for the scale in the current sample was .86.

### Procedure

After obtaining approval from the Stanford University Institutional Review Board, the principal investigator and two undergraduate research

assistants recruited participants through mailing lists of undergraduate student organizations and dormitories, paper advertisements around the campus, Facebook, and word of mouth. Organizations, cultural centers, and themed dormitories focusing on the issues of students from nondominant ethnic/racial groups (African American, Asian American, Hispanic/Latino, Native American) were contacted weekly through e-mail for an 8-week period. Advertisements included length of time to complete the study, compensation for participation, study group contact information, and a web link to the survey. Recruitment materials stated that the purpose of the survey was to identify factors contributing to the healthy development of college students, particularly bicultural college students. The survey was distributed online in English through Qualtrics® and was estimated to take 20 to 25 minutes to complete. The first page of the survey contained the informed consent. Participants confirmed that they were between the ages of 18 and 25 and understanding of the informed consent. Participants were not required to answer every survey question and were reminded of the anonymity of their responses on the top of each page of the survey. To control for order effects, survey questions within each page were randomly presented for each participant. After completing the survey, participants were led to a final page with instructions on how to enter a raffle to win a gift card. Four gift cards of amounts ranging from \$25 to \$100 were distributed to lottery winners after survey collection concluded.

## Results

### Preliminary Analysis

All data analysis procedures in this study were conducted using Stata 14® software. Analysis for testing significant effects of demographic variables on bicultural efficacy and psychological well-being was conducted using multiple regression analysis. Pearson correlational analysis was conducted to examine correlations between all variables in the study. Missing data were found to be missing completely at random (MCAR) using the mcartest command in Stata®,  $X^2(124) = 125.06$ ,  $p = .47$  (Li, 2013). Then, missing data were accounted for through the MCMC iterative method of multivariate imputation (Schafer, 1997). Five iterations of the data were created and averaged together for data analysis procedures. All variables tested in the study were standardized in order to reduce multicollinearity. Before running statistical

tests for each research aim, analyses of four regression assumptions were conducted, as recommended by Osborne and Waters (2002). Variables in the study were found to follow the assumptions of linearity, measurement reliability, homoscedasticity, and normality, thus allowing them to be used in regression analyses to reduce over- and underestimation effects.

A multiple regression analysis was conducted to determine if certain demographic variables covaried with psychological well-being, the primary dependent variable in the study analysis revealed that there were no significant effects of age, sex, class standing, parent education, or ethnic group,  $R^2 = .03$ ,  $F(5,146) = 0.93$ ,  $p = .86$ . Due to the nonsignificance of these variables, they were not included in further analysis of psychological well-being. A correlational analysis was conducted for descriptive purposes. Unstandardized means, standard deviations, and correlations for each variable are located in Table 1.

### Research Aim 1

To test the first research aim, Pearson correlational analysis was conducted to examine relations between personality, bicultural efficacy, and psychological adjustment. It was hypothesized that bicultural efficacy would correlate with agreeableness, neuroticism, and openness to experiences. Using correlational analysis with Bonferroni-adjusted significance levels, of the five personality characteristics, agreeableness ( $r = .27$ ,  $p = .01$ ) and neuroticism ( $r = -.25$ ,  $p = .03$ ) were significantly correlated with bicultural efficacy (see Table 1).

### Research Aim 2

Standard regression analysis revealed a significant effect of bicultural efficacy on psychological well-being ( $b = .32$ ,  $p = .001$ ), with the model explaining 14% of the total variance. It was hypothesized that bicultural efficacy would be positively correlated, with well-being controlling for personality characteristics. To test this hypothesis, a two-step hierarchical regression analysis was conducted. The BFI personality characteristics were regressed onto psychological well-being in the first step. In the second step, bicultural efficacy was added to determine its main effect after controlling for personality characteristics. Results revealed that, after controlling for personality characteristics, bicultural efficacy had a significant positive main effect on psychological well-being (see Table 2 for hierarchical regression results). There was also a significant increase of the model fit to predict psychological well-being,  $R^2 = .01$ ,  $F(1,148) = 8.03$ ,  $p = .005$ . In the first step of analysis, the model accounted for 48% of the variance. Additionally, conscientiousness ( $b = .32$ ,  $p < .001$ ), extraversion ( $b = .16$ ,  $p = .01$ ), agreeableness ( $b = .16$ ,  $p = .02$ ), and neuroticism ( $b = -.31$ ,  $p < .001$ ) had a significant main effect on psychological well-being. In the second step of analysis, the model accounted for 49% of the variance. Thus, while controlling for personality characteristics, bicultural efficacy had a significant positive effect on psychological well-being ( $b = .12$ ,  $p = .04$ ). Additionally, after controlling for bicultural efficacy, the effects of extraversion, agreeableness, and neuroticism were slightly lowered. These results suggest that, for bicultural individuals, bicultural efficacy may be a mediating factor between certain

**TABLE 1**

**Means, Standard Deviations, and Bonferroni-Adjusted Correlations Among Variables**

Variable Name	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Bicultural Efficacy	172.59	25.92	--									
2. Well-Being	89.70	14.16	.37***	--								
3. Depression	12.62	4.70	-.16	-.63***	--							
4. Anxiety	11.35	3.84	-.12	-.58***	.75***	--						
5. Stress	13.78	4.05	-.10	-.51***	.73***	.81***	--					
6. Openness	37.86	5.49	.09	.17*	.02	-.01	-.03	--				
7. Conscientiousness	32.82	5.26	.20	.51***	-.40***	-.32*	-.29*	-.01	--			
8. Agreeableness	33.53	4.37	.27**	.40***	-.32**	-.26**	-.31**	.12	.43***	--		
9. Extraversion	24.21	6.24	.18	.32**	-.20	-.13	-.14	.35**	.02	.21	--	
10. Neuroticism	23.51	4.99	-.26*	-.55***	.56***	.51***	.64***	-.09	-.32**	-.28**	-.34**	--

*Note.*  $N = 152$ . Higher amounts indicate higher scores for the variable. Variables were measured using the following scales: (1) Bicultural Self Efficacy Scale, (2) Ryff Well-Being Scale, (3–5) Depression, Anxiety, Stress Scale, and (6–10) Big Five Inventory. Means were calculated using sum scores. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

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personality characteristics and psychological well-being. Examination of this relationship is presented in post-hoc analysis.

Next, the effect of bicultural efficacy on well-being controlling for internalizing symptoms was examined (see Table 3). It was hypothesized that bicultural efficacy would reduce the negative effects of internalizing symptoms on well-being. The subscales of the DASS-21 were regressed onto psychological well-being in the first step. In the second step, bicultural efficacy was added to the model. *F* tests were used to compare model significance. There was a significant increase of the

model fit to predict well-being,  $R^2 = .07$ ,  $F(1,150) = 31.57$ ,  $p < .001$ . As expected, the first model was significant and explained 42% of the variance. Both depression ( $b = -.47$ ,  $p < .001$ ) and anxiety ( $b = -.23$ ,  $p = .04$ ) had a significant main effect on psychological well-being, although the effect of stress was nonsignificant. In the next step of analysis, bicultural efficacy was added to the model. This model explained 49% of the variance, and better predicted psychological well-being. Although the significant effects of both depression ( $b = -.43$ ,  $p = .02$ ) and anxiety ( $b = -.23$ ,  $p = .02$ ) remained, the addition of bicultural efficacy decreased their effects and had a significant positive effect on well-being ( $b = .26$ ,  $p < .001$ ). Thus, bicultural efficacy reduced the negative influence of internalizing symptoms on psychological well-being through its significant positive association with well-being.

### Exploratory Analysis—Bicultural Efficacy as Mediator

Although not part of the original research aims, based on examination of the correlational analyses from Research Aim 1 and the reduced effects of agreeableness and neuroticism from the hierarchical regression models in Research Aim 2, the mediating effect of bicultural efficacy and the Big Five personality traits was conducted. Although the relation between personality traits and well-being has been supported in past studies (Diener & Lucas, 1999; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997), recent research proposes that these relations may be explained by variables such as coping and temperament, which influence how individuals evaluate their emotions (Carver & Connor-Smith, 2010; Steel et al., 2008). Thus, bicultural efficacy could be an individual-difference variable related to coping that could mediate the relation between personality and well-being.

Sobel-Goodman mediation analysis was used to test this mediation for agreeableness and neuroticism, the two personality traits that were found to be significantly related to bicultural efficacy in Research Aim 1. First, the direct effect of the personality characteristic on psychological well-being was examined, followed by the direct effect of the personality characteristic on bicultural efficacy. Next, bicultural efficacy was regressed onto psychological well-being. Finally, a multiple regression analysis examining the effects of both the personality characteristic and bicultural efficacy on well-being was completed. Agreeableness was related to bicultural efficacy,  $b = .28$ ,  $p < .001$ , and

**TABLE 2**

#### Summary of Hierarchical Regression Analysis for Personality Variables Predicting Psychological Well-Being

Variable	$\beta$	<i>se</i>	<i>t</i>	$R^2$	$R^2$
Step 1				.48	
Openness	.05	.06	0.79		
Conscientiousness	.31***	.07	4.83		
Extraversion	.16**	.07	2.51		
Agreeableness	.16*	.07	2.37		
Neuroticism	-.30***	.07	-4.73		
Step 2				.49	.01*
Openness	.04	.06	0.70		
Conscientiousness	.31***	.07	4.83		
Extraversion	.16*	.06	2.49		
Agreeableness	.13*	.06	1.95		
Neuroticism	-.28***	.06	-4.38		
Bicultural Efficacy	.12*	.06	2.01		

Note. \* =  $p < .05$ . \*\* =  $p < .01$ . \*\*\* =  $p < .001$ .

**TABLE 3**

#### Summary of Hierarchical Regression Analysis for Depressive Symptoms, Anxiety Symptoms, Stress, and Bicultural Efficacy in Predicting Psychological Well-Being

Variable	$\beta$	<i>se</i>	<i>t</i>	$R^2$	$R^2$
Step 1				.42	
Depressive Symptoms	-.48***	.10	-4.92		
Anxiety Symptoms	-.23*	.11	-2.92		
Stress	.04	.10	0.41		
Step 2				.49	.07***
Depressive Symptoms	-.44***	.09	-4.78		
Anxiety Symptoms	-.23*	.11	-2.19		
Stress	.05	.10	0.49		
Bicultural Efficacy	.25***	.05	4.50		

Note. \* =  $p < .05$ . \*\* =  $p < .01$ . \*\*\* =  $p < .001$ .

bicultural efficacy was related to psychological well-being,  $b = .25, p < .001$ . Specifically, 17% of the effect of agreeableness on psychological well-being was explained by bicultural efficacy,  $b = .35, p < .001$  (see Figure 1A). Neuroticism was also related to bicultural efficacy,  $b = -.24, p < .001$ , and bicultural efficacy was related to psychological well-being,  $b = .24, p < .001$ , with 10% of the effect of neuroticism on psychological well-being explained by bicultural efficacy,  $b = -.45, p < .001$  (see Figure 1B). These results suggest a partial mediation effect. With regard to openness and extraversion, there were no significant mediating effects of bicultural efficacy on well-being.

### Discussion

This study not only provided further insight into the concept of bicultural efficacy proposed by LaFromboise et al. (1993), but also expanded upon past research relating to biculturalism and personality, and uncovered the potential beneficial effects of bicultural efficacy on well-being while controlling for internalizing symptoms in bicultural college students (Benet-Martínez & Haritatos, 2005; Wei et al., 2010). Correlational and regression analyses supported the proposed hypotheses and revealed three main findings: (a) agreeableness and neuroticism were correlated with bicultural efficacy, and bicultural efficacy mediated the relation between agreeableness and neuroticism, and psychological well-being; (b) controlling for personality characteristics, bicultural efficacy was associated with psychological well-being; and (c) bicultural efficacy reduced the effect of internalizing symptoms on well-being.

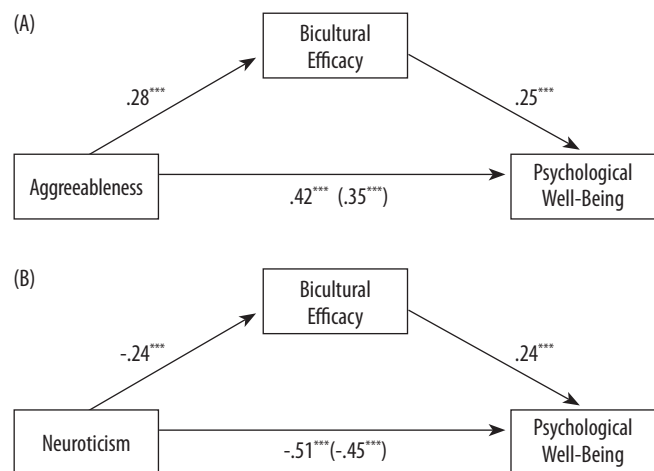
The study's first hypothesis was partially supported. Openness was not related to bicultural efficacy in this study (Benet-Martínez & Haritatos, 2005). This result could be attributed to differing operationalization of the openness construct in the BFI and in bicultural efficacy. Although components of bicultural efficacy relate to being more flexible regarding the relation between an individual's two cultures (e.g., feeling that one can alter one's behavior to fit into two cultures), the openness dimension of the BFI focuses on individual characteristics like curiosity, self-reflectiveness, and imaginativeness (John & Srivastava, 1999). Thus, the type of openness the Bicultural Self-Efficacy Scale assesses may not align with the BFI's openness dimension (David et al., 2009). Future research can examine which personality traits predict each dimension of bicultural efficacy

separately to obtain more in-depth information regarding the relation between personality and bicultural efficacy.

Next, the correlation between bicultural efficacy and agreeableness can be explained by the importance of social support, and how having social skills contributes to bicultural efficacy (Nguyen & Benet-Martínez, 2012). Three factors of bicultural efficacy (i.e., social groundedness, role repertoire, and communication ability) connected conceptually with agreeableness. Last, neuroticism was correlated with bicultural efficacy. Individuals with high neuroticism were more likely to report feeling anxious and stressed. Because bicultural college students must frequently transition between two environments through switching cognitive and behavioral frames, students with high neuroticism may feel particularly anxious due to instability in their environment (Benet-Martínez & Haritatos, 2005). Although correlational in nature, these findings provide valuable insight into the link between personality and bicultural efficacy, and increase understanding regarding how bicultural college students may interpret everyday experiences (McAdams & Pals, 2006).

The current study was the first to examine bicultural efficacy as a mediator between personality and psychological well-being, specifically

FIGURE 1



Standardized regression coefficients for model explaining the relation between (A) Agreeableness and (B) Neuroticism on psychological well-being as mediated by bicultural efficacy. The standardized regression coefficient for the effect of the personality variable on psychological well-being controlling for bicultural efficacy is in parentheses. \* =  $p < .05$ . \*\* =  $p < .01$ . \*\*\* =  $p < .001$ .



agreeableness and neuroticism. This finding additionally ties in with the second main finding regarding the positive association of bicultural efficacy with psychological well-being, controlling for personality characteristics, providing support for previous research asserting the importance of examining mediators between personality and outcome variables (Chaplin, 2007). Although the *R*-squared value between the model with the personality traits and the model with bicultural efficacy added on well-being was small, the significance found may be due to the mediating effect of bicultural efficacy. In other words, bicultural efficacy accounted for some of the effect of personality traits on well-being.

According to the current study's mediation analysis, bicultural college students may report more well-being because aspects of their agreeableness and neuroticism may influence their bicultural efficacy. As McAdams and Pals (2006) explained, personality traits predispose individuals to behave and think in certain ways. In the case of bicultural college students, agreeableness can predispose them to be friendly, optimistic, and cooperative, resulting in being well-liked by peers and gaining social support in both cultural settings. As Benet-Martínez and Haritatos (2005) explained, neurotic individuals are more likely to be anxious and display negative feelings, predisposing bicultural college students to anticipate problems in social situations or misinterpret behaviors because they may not understand how to operate in a particular cultural setting. Therefore, these traits are functional in situations relating to experiences bicultural college students may face, explaining how bicultural efficacy mediates the personality and well-being relationship. The result supports biculturalism theory and past research stating that coping and other variables mediate the relation between personality and well-being (Carver & Connor-Smith; LaFromboise et al., 1993; Steel et al., 2008).

Last, the positive association between bicultural efficacy and well-being controlling for internalizing symptoms was found. The result extended previous research findings concerning the interplay between bicultural efficacy, minority stress, and psychological outcomes (David et al., 2009; Wei et al., 2010). A bicultural college student may feel depressed due to, for example, an insensitive comment another student made about their heritage background. A student with high bicultural efficacy may have various modes of support in both cultural settings to cope with depressive feelings elicited from this event. Overall, the results provide further support

for the framework presented by LaFromboise et al. (1993) regarding the use of bicultural efficacy as a coping resource against internalizing symptoms.

### Limitations and Future Directions

The first limitation to note is the small effect size of the tests reported in this study, particularly in the change in model fit for the hierarchical regression analyses, and the mediation analyses results. Although bicultural efficacy may have positive implications for well-being and may account for some of the effect of personality traits on well-being, there may be other factors not considered within the bicultural efficacy construct that may strongly relate to well-being in bicultural college students. Nonetheless, promotion of students' bicultural efficacy in university and counseling settings could be useful in addressing issues of school belongingness, acculturative stress, or discrimination that bicultural college students often encounter (Brannon et al., 2015; Carrera & Wei, 2014; Smedley et al., 1993). Next, the items for the attitudinal scales were randomized for each participant to control for potential order effects (Schell & Oswald, 2013). However, not all scales in this study were previously tested to maintain psychometric properties with randomization. Thus, future studies can present inventory items as presented in the original instrument to assure control for potential order effects. Additionally, this study did not examine *how* bicultural efficacy can impact well-being. One explanation is that bicultural efficacy may act as a positive coping mechanism for bicultural college students (LaFromboise et al., 1993; Wei et al., 2010) against experiences of stress. An alternative explanation is that bicultural efficacy could positively impact how students build their social networks, or maintain their family relationships, because the social groundedness dimension accounted for much of the variance in the initial development study of the Bicultural Self-Efficacy Scale (David et al., 2009). Thus, future research can examine when and how bicultural efficacy is most used. For example, is it frequently used in response to particular types of stress or consistently used as a skill to promote positive interactions with individuals from multiple cultural settings?

The sample in the current study consisted of bicultural college students at a small, private university in the United States and cannot be generalized to students in different college settings such as community colleges, vocational schools, and universities with more commuter students (only one student in

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this sample reported living off-campus, and first-year students at this university are required to live on-campus). Students in different settings may face different stressors than residential students because they may live with family or live independently. Additionally, the principal investigator and research assistants all identify as Asian/Asian American, which might have impacted the reach of advertisements. More than half of the bicultural college students in the sample considered themselves Asian American, suggesting that announcements of the survey might have spread mostly through the Asian American community, resulting in an imbalance in representation of bicultural college students from various backgrounds. To obtain a more diverse sample, recruitment can be targeted equally to the different university cultural centers, and can be expanded to other universities and colleges. Additionally, with diverse recruitment strategy, studies of differences between ethnic groups can be accomplished. Most studies of bicultural efficacy, including this one, have examined bicultural college students of different identities together or one particular bicultural ethnic group (e.g., Asian Americans, Latino/a Americans). As previous studies have revealed ethnic-group differences in acculturation experiences of bicultural adolescents (Hsiao & Wittig, 2008; Phinney & Devich-Navarro, 1997), future research can examine the expression of biculturalism and whether biculturalism differentially relates to personality and psychological outcomes between ethnic groups.

Another limitation was related to the quantitative and cross-sectional aspect of this study. This study provides a broad overview of the interplay between personality, bicultural efficacy, and psychological outcomes, although causal relations between these variables cannot be inferred through correlational and regression analyses. Additionally, it does not provide a complete picture of how bicultural efficacy presents itself in individuals, or how it can protect against the negative psychological effects of internalizing symptoms. A mixed-methods approach is recommended in order to gain more depth. Conducting focus groups and interviews with bicultural college students about their thought processes and coping mechanisms when dealing with cultural conflict and other stressors can provide valuable insight into the protective effect of bicultural efficacy. Because personality variables cannot be experimentally manipulated, Chaplin (2007) suggested that examining these variables longitudinally through cross-lagged models can

enhance understanding of causal priority. In this study, both personality and bicultural efficacy were measured based on self-perception. Considering the mutual constitution of culture and the self, it is important to utilize assessments of personality that are contextually appropriate (Markus & Kitayama, 1998; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002). By addressing these limitations, future research can discern the direct effect that bicultural efficacy has on psychological outcomes, the mechanism behind these effects, and whether these effects vary between different ethnic groups.

### Conclusion and Implications

As stated by Bandura (2002), bicultural efficacy holds high functional value for bicultural individuals. The current study revealed that personality plays a role in predisposing bicultural college students to behave in ways demonstrating bicultural efficacy, and that these behaviors are positively associated with well-being controlling for the negative effects of internalizing symptoms. Current research has not examined causal effects of bicultural efficacy on psychological outcomes in depth. However, there are studies revealing the psychological and academic benefits of targeting unique stressors bicultural college students experience, and promoting behaviors indicative of bicultural efficacy through counseling (Nguyen & Benet-Martínez, 2012; Szapocznik et al., 1986) and university summer bridge programs.

The Meyerhoff Scholars Program at the University of Maryland, Baltimore County, was designed to promote underrepresented minority access in specific fields of higher education. An in-depth, qualitative analysis of the Meyerhoff Scholars Program revealed that students felt that building their own social capital was crucial for their success in the program. Particularly, focusing on social skills related to bicultural efficacy such as conflict resolution, communication skills, and interacting with others from diverse socioeconomic, racial, and linguistic backgrounds was integral to building a cohesive support structure and being successful throughout college (Stolle-McAllister, 2011). Further study of bicultural efficacy can examine this construct's potential to contribute to psychological well-being through intervention, and how academic institutions, educators, psychologists, student service providers, and parents can support college students' bicultural efficacy.

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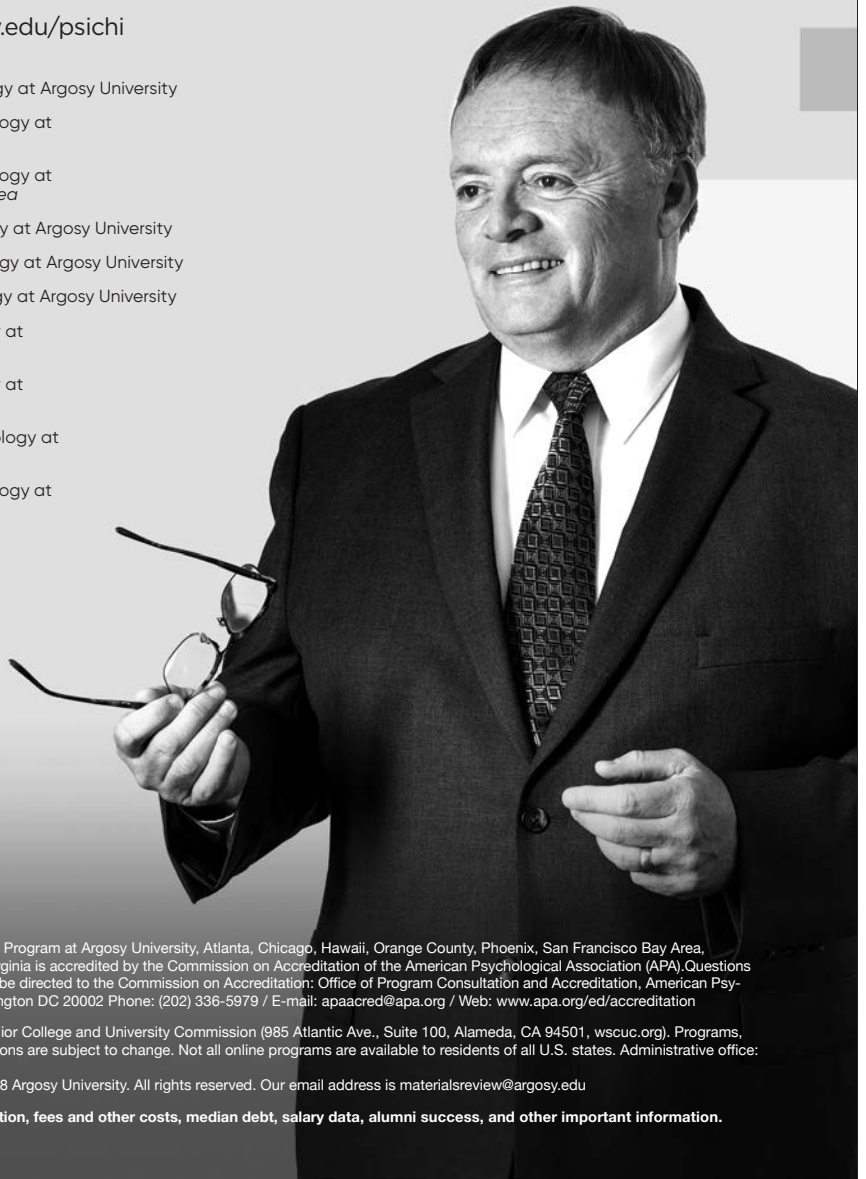
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This spring, consider submitting research to *Psi Chi Journal* that is related to help-seeking behavior. Psi Chi is launching a new 2018 initiative, which will establish a toolkit of resources that encourage people to feel comfortable seeking help concerning a mental illness, bullying, sexual harassment/abuse, tutoring, test taking, etc.

Will you support the **#Help\_HelpedMe Initiative** by helping us expand Psi Chi's collection of help-seeking articles? As always, student and faculty

authors are welcome, and submissions will remain open for all other areas of psychological research.

Experience our rigorous, yet supportive and educational, peer-review process for yourself. Our high visibility across the field and dedication to transparent, replicable research practices makes our journal *the* place to submit your research today!

Learn more about the Help\_HelpedMe Initiative at <https://doi.org/10.24839/2325-7342.JN23.1.2>

"What if we lived in a world where seeking help was considered as noble as offering help? . . . Let's work together toward a future where seeking help is universally perceived as a psychological strength."

R. Eric Landrum, PhD  
Psi Chi President

# HELP HELPED ME

## Become a Journal Reviewer!

Doctoral-level faculty in psychology and related fields, are you *passionate about educating others* on conducting and reporting quality empirical research? If so, we invite you to become a reviewer for *Psi Chi Journal of Psychological Research*.

Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—*Please join us!*

To become a reviewer, contact  
[Debi.Brannan@psichi.org](mailto:Debi.Brannan@psichi.org)

Already a reviewer? Consider inviting other faculty at your institution to join our outstanding reviewer team.



**PSI CHI** INTERNATIONAL  
HONOR SOCIETY  
IN PSYCHOLOGY



SPRING 2018

PSI CHI  
JOURNAL OF  
PSYCHOLOGICAL  
RESEARCH

# PSI CHI Advertising Contract: *Psi Chi Journal*

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## OUR JOURNAL

Advertising in *Psi Chi Journal* allows you to connect with established psychology researchers and mentors, as well as undergraduates and graduate students striving to build a career in one of the many areas of research. People regularly visit our journal online to

- view current and past issues,
- submit their research for publication,
- learn about reviewing for *Psi Chi Journal*,
- share invited editorials as teaching tools in the classroom.

All issues and advertisements are permanently free online to both members and nonmembers alike. During the 2015–16 fiscal year, psichi.org received **1.67 million page views**, ensuring that high-achieving students and professionals will see your content for years to come.

To further enhance the visibility of our journal, latest issues and calls for submissions are regularly featured in *Psi Chi Digest* e-mails (**180,000+ subscribers**) and on our three social media platforms.

- Facebook (22,500+ followers)
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Articles are also indexed in PsycINFO, EBSCO, and Crossref databases—essential tools that researchers use to search for millions of psychology-related articles. This makes *Psi Chi Journal* a key place to communicate your message with our Professional Organization's **700,000+ lifetime members** and far beyond.

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## Publish Your Research in *Psi Chi Journal*

Undergraduate, graduate, and faculty submissions are welcome year round. Only the first author is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
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## Resources for Student Research

Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at [www.psichi.org/?journal\\_past](http://www.psichi.org/?journal_past)

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