Peer-Reviewed Article

Cultural Partner Program: Enhancing Intercultural Interactions and Transitional Outcomes for International Graduate Level Students

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ABSTRACT

International students, especially graduate-level students, experience unique challenges as they make a transition to a new social and cultural environment. This study examines the impacts of the Cultural Partner Program on transition outcomes for incoming graduate-level international students. Of the 171 participants recruited from a public research university in the southeast U.S., 39 participated in the control group and the rest in the experimental group. Although the regression analysis did not reveal significant results, supplemental standardized mean difference analyses was conducted considering the wide 95% confidence intervals and the relatively small sample size in the regression analysis. The standardized mean difference analyses revealed that in comparison with the control group, the experimental group performed better on specific transition outcomes (i.e., intercultural interaction enjoyment, self-esteem, stress, perceived social support, social and academic integration, and attitudes toward seeking professional help) but performed worse on other intercultural sensitivity subscales and cultural identity. Higher education professionals need to foster inclusive and creative environments for international students to enhance their transition experiences and outcomes.

Keywords: intercultural interaction, stress, international graduate students, transition outcomes, help-seeking

INTRODUCTION

Globalization in the 21st century is a part of the realities of higher education (Fox & Hundley, 2011; Qi, 2016). According to Statista (2022), despite the COVID-19 pandemic and global issues, international student enrollment has increased significantly in the past 20 years. Higher education's globalization benefits from cross-country relationships, including economic advantage and intellectual capital (Institute of International Education, 2015). Furthermore, the socio-cultural benefits of globalization prepare students to live and work effectively within an international context by fostering intercultural interactions and competencies (Deardorff, 2006). The positive impacts of intercultural interactions include but are not limited to the facilitation of smooth transitions to new higher education systems and to new countries, enhanced educational, social, and cultural experiences, and the development of intercultural awareness and skills (Harrison & Peacock, 2010; Hendrickson, 2018). Higher education institutions need to address the developmental components of intercultural competence in a variety of ways, such as on-campus interactions, student learning, and the different backgrounds of students. (Deardorff, 2006)**.**

Despite the importance of intercultural interactions, minimal interactions between international and domestic students exist on campus (Fischer, 2009). The lack of intercultural interaction is especially true among graduate-level students for the following reasons. First, graduate students experience tremendous academic and life pressures in addition to the challenges related to cultural and language barriers (Harrison & Peacock, 2010). Second, the lack of intercultural interactions among graduate students can be attributed to cultural gravitation toward and remaining within one's cultural group (Sherry et al., 2010). In 2019 and 2020, China, India, and South Korea are the top three countries of origin for international students within the U.S. (Israel & Batalova, 2021). Students from these countries readily identify with peers from their own countries on campuses and may choose to stay in their cultural silos without establishing meaningful connections with students from other cultures and countries. Matsuda and Miller (2007) highlight that connections between international and domestic students rarely happen.

Thus, the presence of international and culturally diverse students on campuses does not automatically lead to increased intercultural interactions and positive transition outcomes (Harrison & Peacock, 2010). Research is warranted to examine appropriate approaches to foster intercultural interactions and related transition outcomes for international graduate students.

Relationship between Intercultural Interaction and Transition Outcomes

The intercultural interactions of international students can be closely associated with various transition outcomes such as ethnic identity, self-esteem, perceived social support, academic and social integration, and help-seeking. Phinney et al. (2001) noted that a stronger ethnic identity supports psychological well-being. However, Li and Gasser (2005) suggested that international students with a greater sense of ethnic identity were less likely to seek out interactions with individuals from the host country. Phinney et al. (1992) further explained the complex relationship existing between self-esteem, ethnic identity, and intercultural interactions: individuals who favor separation identity (i.e., remain within their cultural silo and have limited intercultural contact) may maintain self-esteem when within their ethnic group; however, they often have a difficult time functioning when interacting with other cultural groups, which may lead to an increase in stress and a decrease in self-esteem.

Russell et al. (2010) noted that a lack of connection to academic and social life might be a significant source of stress for international students. Tinto (1975) identified student academic and social integration as a requirement for college success. According to Nilsson (2019), participation in social activities has increased social integration, which translates into better academic performance and comprehensive personal experiences. Campbell (2012) suggested that facilitating American and international student interactions might positively influence overall life satisfaction and encourage further exploration concerning international students' cross-cultural interactions.

International students' level of perceived social support has been shown to predict resilience when living in a new country (Sabouripour & Bte Roslan, 2015). Shigaki and Smith (1997) found that interactions between host and international students resulted in supportive friendships that allowed international students to overcome feelings of disconnect throughout the acculturation process. In addition, Geelhoed et al. (2003) suggested that in-depth intercultural contact is a critical component in developing cross-cultural sensitivity. On the other hand, international students underutilize mental health services and campus resources (Mori, 2000). Multiple authors (e.g., Kilinc & Granello, 2011; Swanbrow Becker et al., 2018) found that an international student's specific cultural value orientation might discourage them from seeking professional help and stigmatize mental health issues. Thus, international students with a greater willingness to have intercultural interactions were likelier to engage in help-seeking behaviors (Logan et al., 2017).

Past Approaches in Assisting Intercultural Interaction

A buddy program, through which international students are paired with their domestic counterparts, is one of the key strategies to facilitate the transition for international students. Some of the past studies focused on buddy programs among undergraduate students. Tolman's (2017) research assessed a program in which the host students were paired with international students as roommates in on-campus housing. Campbell (2012) featured a buddy program as a required component of a university-sponsored course, in which a domestic student was paired with an international student and had regular meetings, either social or task-oriented, for 2 weeks. Tolman's (2017) findings indicate greater overall satisfaction among international students with their intercultural experience. Campbell (2012) and Thomson and Esses (2016) also found that international students in a buddy program had less stress and anxiety when interacting with people from other cultures. They also challenged stereotypes, which made interactions more meaningful.

In addition to programs pairing undergraduate students, other studies focused on buddy programs between undergraduate and graduate students. Matsuda and Miller (2007) paired graduate-level international teaching assistants with undergraduate domestic students. International students in the study emerged from intercultural interactions with improved cross-cultural communication and enhanced cultural understanding. Other studies have similar findings of improved adaptation among undergraduate international students due to the buddy program (Geelhoed et al., 2003; Nilsson (2019). A significant component of this successful adaptation is the introduction to on-campus social opportunities such as clubs and service organizations, which international students receive through their host student pairings (Abe et al., 1998; Nilsson, 2019).

Research Gaps

Although research studies on peer partner programs indicate that college campuses integrate levels of international engagement, there are several limitations. First, to the best of our knowledge, no study has investigated the impact of peer partner programs specifically for graduate-level students within the U.S. Weir (2020) highlights the importance of appropriate pairing within the buddy programs to reduce the age gap limitations between undergraduate and graduate students. For example, graduate-level students often felt their needs were being overlooked as most programs were geared more toward undergraduates (Nilsson, 2019); whereas undergraduate host students reported struggling to connect with their graduate buddies and feeling as though their interactions were awkward, attributing

much of this awkwardness to the demographic differences (i.e., age) between themselves and their graduate-level international peers (Geelhoed et al., 2003).

Second, though essential, qualitative research on buddy programs, offers limited generalizability due to their small sample sizes and potential researcher bias and subjectivity in the research process (Campbell, 2012; Geelhoed et al., 2003). Third, many previous quantitative studies have not established control groups (Abe et al., 1998; Matsuda & Miller, 2007; Thomson & Esses, 2016). The lack of a control group may make it difficult to establish a reliable causal inference between participation in a buddy program and any given set of transition outcomes. Similarly, Smith and Khawaja (2011) highlighted that there had been a noticeable lack of longitudinal research conducted in this field to date, with most of the studies utilizing a cross-sectional design. Finally, previous research has overlooked comprehensive individual factors that can be highly influential in shaping international students' transition and educational experiences (Smith & Khawaja, 2011), such as ethnic identity, self-esteem, perceived social support, and help-seeking.

The primary purpose of this study is to examine the impact of intercultural partnership programs on intercultural competence, academic and social integration, willingness to ask for help, and sense of well-being of international graduate students through a pretest-posttest control group experimental design.

METHOD
Participants

We recruited 171 participants from one public research institution in the southeastern part of the U.S. from 2015-2018. These participants were from 27 different countries, with those from China constituting the most significant proportion (43.3%), followed by India (13.5%), and then by South Korea (9.4%), and each of the other countries accounting for less than 6%. Eighty-one participants (47.4%; 46 in the year 2017 and 35 in the year 2018) provided information about their academic disciplines. A total of 40 academic disciplines were involved, among which the discipline of "Statistics" was the most frequent (7%, or 12 out of 171), with "Computer Science" being second (4.7%) and "Sport Management" as well as "Civil and Environmental Engineering" being the third (2.4%) most frequent. Of all the participants, (22.8%) and (72.2%) were assigned to the control and experimental groups to maximize the benefits of the program. In Table 1., details for participants in the control and experimental groups were almost comparable in terms of age,

gender, education level, marital status, and past intercultural experience. Furthermore, the control and experimental groups had similar patterns in the composition of participants' countries of origin: participants from China and India accounted for the first- and second-largest portions, respectively.

Table 1

Frequencies and Relative Frequencies of Demographic Variables

	Control group (n/%)	Experimental group (n/%)	Total (n/%)
Gender			
Male	13/ 33.3%	51/38.6%	64/37.4%
Female	25/64.1%	69/52.3%	94/55.0%
Missing cases	1/2.6%	12/9.1%	13/7.6%
Education level			
Master	20/51.3%	55/41.7%	75/43.9%
Doctoral	17/43.6%	51/38.6%	68/39.8%
Do not expect one	1/2.6%	14/10.6%	15/8.8%
Missing cases	1/2.6%	12/9.1%	13/7.6%
Marital status			
Married	2/5.1%	7/5.3%	9/5.3%
Single but in a relationship	13/33.3%	15/11.4%	28/16.4%
Single and not in a relationship	20/51.3%	33/25%	53/31%
Missing cases	4/10.3%	77/58.3%	81/47.4%
Past intercultural experiences			
No	13/33.3%	33/25%	46/26.9%
Yes	25/64.1%	87/65.9%	112/65.5%
Missing cases	1/2.6%	12/9.1%	13/7.6%

Procedures

The Cultural Partnership Program (CPP), through collaboration between the Center for Global Engagement and the College of Education at a southeastern research university in the U.S., provides an opportunity to facilitate the transition process and enhance the intercultural competency and well-being of the participants. The participants were recruited through a list serve for new incoming international students through the assistance of the University's Center of Global Engagement. In addition, an informational table at graduate orientations was set up to recruit participants over the years. Prospective participants were informed about the potential benefits and risks of the study. Those who agreed to participate in the CPP were assigned to either a control or experimental group. A participant in the experimental group was paired up with one domestic graduate-level student at the same university and engaged in a semester-long intercultural interaction. Participants were asked to indicate their preference of gender for their cultural buddy to accommodate their cultural and religious needs. Participants in the

experimental group were invited to an orientation at the beginning of the fall semester in which they were introduced to their domestic cultural buddy. The orientation served as an opportunity to provide basic training on cross-cultural interaction and answer questions related to the program. Participants were informed to contact the principal investigator and their research team to solicit consultation and support if they encountered any problems during the cross-cultural interactions. Participants were asked to meet their cultural partners four to six times throughout the semester. Although the research team did not plan the meeting activities, participants were encouraged to engage in cross-cultural activities such as social, cultural, sports, and academic events or activities on campus or in the community. Participants in the control group did not participate in the CPP program but were offered material on cross-cultural interactions.

All participants in the experimental and control groups were requested to complete two online surveys: one at the beginning of the semester and one at the end of the semester. The participants were offered an incentive of a $5 gift card for completing each survey. The Institutional Review Board approved the study at the university of the first author. Research protocols strictly followed ethical standards during data collection and analysis to protect participants' personal information.

Instruments

The pre- and post-test surveys included questions regarding demographic information such as age, gender, majors, marital status, country of origin, language proficiency, previous intercultural experiences, and measures listed below.

Measures

Intercultural Sensitivity Scale. The Intercultural Sensitivity Scale (Chen & Starosta, 2000) is a 24-item self-reported measure of one's intercultural communication on five subscales: Interaction Engagement, Respect for Cultural Differences, Interaction Confidence, Interaction Enjoyment, and Interaction Attentiveness. The scale was found to have internal consistency with a Cronbach's alpha of .86 and good convergent validity (Chen & Starosta, 2000). A sample item included "I have a feeling of enjoyment towards differences between my culturally-distinct counterpart and me." In the current study, the alpha coefficients were above .80 for the total scale (.85 and .83) and ranged from .40 to .81 for subscales (Interaction Engagement: .60 and .64; Respect for Cultural Differences: .67 and .76;

Interaction Confidence: .81 and .71; Interaction Enjoyment: .59 and .79; Interaction Attentiveness: .40 and .43) during pre-and post-tests.

Multidimensional Scale of Perceived Social Support. The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) is a 12-item self-report measure of one's perception of social support on three subscales: friends, family, and a significant other. The scale was found to have a strong test-retest reliability (.85), strong factorial validity and moderate construct validity (Zimet et al., 1988). A sample item included "There is a special person who is around when I am in need." The alpha coefficients were .89 to .90 for pre-and post-tests in the current study.

The Revised Multigroup Ethnic Identity Measure (MEIM-R). The MEIM-R (Phinney & Ong, 2007), a 6-item instrument, was used to measure individuals' commitment and exploration of their ethnic identity. The scale demonstrates adequate internal consistency (Phinney & Ong, 2007). A sample item included "I have a strong sense of belonging to my own ethnic group." The alpha coefficients were .86 to .89 for pre-and post-tests in the current study.

The Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item self-reported measure of one's global self-worth, including both negative and positive feelings about oneself. The scale has been found to have strong internal consistency and reliability (Gray-Little et al., 1997). A sample item included "I take a positive attitude toward myself." The alpha coefficients were .79 to .88 for pre-and post-tests in the current study.

Satisfaction with Life Scale. The Satisfaction with Life Scale (Diener et al., 1985) is a 5-item self-reported measure of one's general satisfaction with life. The scale demonstrates good internal consistency and strong convergent and predictive validity (Pavot et al., 1991). A sample item included "In most ways, my life is close to my ideal." The alpha coefficients were .74 to .82 for pre- and post-tests in the current study.

Social and Academic Integration. The social and academic integration scale (Williamson-Asche, 2008) consists of 30 items and four subscales: academic and intellectual development; peer group interaction; interactions with faculty; and faculty interest in teaching and students. Internal consistency for subscales appeared to be good, ranging from .59 to .88 (Williamson-Ashe, 2008). Fifteen items whose factor loadings were lower than .70 were removed in the current study based upon the standards set by Shevlin and Miles (1998). A sample item included "I will be satisfied with my academic experience at my current institution". The alpha coefficients were .92 to .95 for the pre- and post-tests in the current study.

Attitudes Toward Seeking Professional Help. The 10-item Attitudes Toward Seeking Professional Psychological Help scale short form (Fischer & Farina, 1995) is an instrument measuring one's propensity for seeking professional help during challenging life circumstances. This measure demonstrated excellent test-retest reliability and internal consistency (Fischer & Farina, 1995). A sample item included "I might want to have psychological counseling in the future." The alpha coefficients were .79 to .74 for pre- and post-tests in the current study.

Stress. The stress was measured by the 21-item Beck Anxiety Inventory (Beck et al., 1988), which appraises the severity of self-reported anxiety. Beck et al. (1988) obtained internal consistency and test-retest reliability estimates of .92 and .75. The alpha coefficients were estimated at .86 and .96 for pre- and post-tests in the current study.

Statistical Analysis

We computed means and standard deviations (SDs) for all interested variables. Correlational analyses were conducted to examine bivariate correlations among these variables for pre- and post-tests, respectively. We also ran regression analyses for the post-intervention outcome measures separately. Specifically, we regressed each post-intervention measure on the presence or absence of intervention, adding its corresponding pre-intervention measure as a covariate. In addition, we checked ordinary least squares assumptions (e.g., independence of errors, homogeneity of error variances) for each conducted regression model. Data from *Respect for Cultural Differences*, *Interaction Enjoyment*, *Perceived Social Support*, *Attitudes of Seeking Professional Help*, and *Stress* did not satisfy the error assumptions (normality and/or homoscedasticity). Thus, for these measures, we resorted to a robust estimation method, which is robust to the assumption violation and corrects for standard errors of parameter estimates.

To handle missing data, we conducted regression analyses using full information maximum likelihood estimation (Enders, 2010). Regression analyses were run in *R* version 4.0 using the *Lavaan* package. The robust maximum likelihood (i.e., MLR) estimation method was applied in the regression analyses involving *Respect for Cultural Differences*, *Interaction Enjoyment*, *Perceived Social Support*, *Attitudes of Seeking Professional Help*, or *Stress*, for which error assumptions were violated; the default maximum likelihood (i.e., ML) method was used for the other regression analyses. All other analyses were conducted in IBM SPSS 26.

Descriptive Analyses

Table 2 reports Pearson correlation coefficients among measures, and the mean (SD), skewness, kurtosis, and sample size for each measure. Specifically, correlations among pre-intervention scale scores are present above the diagonal, while correlations among post-intervention scores are below the diagonal. The correlations among pre-intervention measures ranged from -.27 to .76, and the correlations among post-intervention measures were in the range of -.54 to .78.

Table 2

Correlations between Pre-intervention Measures and between Post-intervention Measures, plus Descriptive Statistics for Each Measure

	LS	ISS	ISS_IE	ISSR_CD	ISS_IC	ISS_IEN	ISS_IA	CEI	SE	SS	SAI	APHS	Stress
LS		.32	.24	.15	.38	.14	.21	.28	.50	.40	.29	.16	-.27
ISS	.15		.75	.70	.76	.70	.62	.31	.51	.34	.60	.35	-.01
ISS_IE	.18	.78		.49	.47	.46	.34	.28	.39	.17	.41	.33	-.10
ISS_RCD	-.02	.75	.44		.25	.45	.33	.11	.30	.24	.50	.43	-.02
ISS_IC	.21	.62	.36	.16		.48	.35	.24	.45	.27	.37	.09	-.02
ISS_IEN	.03	.67	.27	.71	.26		.35	.10	.39	.28	.36	.16	-.09
ISS_IA	.13	.49	.42	.06	.36	.03		.37	.28	.18	.44	.24	.09
CEI	.28	.39	.47	.08	.34	.05	.40		.31	.19	.25	.21	.08
SE	.52	.47	.35	.36	.26	.43	.15	.35		.51	.46	.31	-.10
SS	.37	.44	.37	.21	.35	.29	.27	.45	.58		.52	.22	-.06
SAI	.43	.41	.34	.27	.28	.28	.19	.42	.70	.55		.45	-.08
APHS	.18	.48	.39	.55	.07	.38	.15	.16	.39	.28	.36		.05
Stress	-.19	-.06	.00	-.12	.03	-.19	.12	-.24	-.54	-.06	-.50	-.20	
Mean [a]	18.37	94.47	25.50	26.70	17.20	12.60	10.70	20.50	38.60	32.40	61.70	35.70	27.73
SD [a]	4.01	9.02	3.47	2.53	3.32	1.63	1.70	4.11	4.81	5.49	7.14	4.96	6.65
Skewness [a]	-.15	.15	.40	-.65	.12	-.18	-.01	.27	-.06	-.77	-.17	.19	1.61
Kurtosis [a]	-1.00	-.61	.02	-.12	-.46	-.36	-.42	-.32	.49	.86	.05	.16	2.93
n [a]	171	170	170	170	171	171	170	169	170	170	169	170	132
Mean [b]	18.10	95.10	27.50	25.80	18.20	12.70	10.90	21.10	38.20	31.99	59.70	35.20	29.58
SD [b]	4.50	9.17	3.33	3.40	2.73	2.09	1.87	4.59	6.36	5.70	9.78	5.11	11.34
Skewness [b]	-.38	-.07	.20	-.99	.23	-1.60	.14	-.08	-.28	-.44	-.95	.22	2.09
Kurtosis [b]	-.35	-.48	-.42	1.14	-.01	4.66	-.09	.42	.95	-.38	3.31	-.67	4.67
n [b]	98	98	98	99	98	99	99	97	97	96	97	98	48

Note. Correlations among pre-intervention measures are present above the diagonal, and correlations among post-intervention measures are below the diagonal. [a] These are for pre-intervention measures; [b] These are for post-intervention measures.
LS: Life satisfaction; ISS: Intercultural sensitivity; ISS_IE: ISS Interaction Engagement; ISS_RCD: ISS Respect for Cultural Differences); ISS_IC: ISS Interaction Confidence; ISS_IEn: ISS Interaction Enjoyment; ISS_IA: ISS Interaction Attentiveness; CEI: Cultural Ethnic Identity; SE: Self-esteem; SS: Perceived social supports; SAI: Social and academic integration; APHS: Attitudes toward professional help seeking.

Regression Analyses

Checking Interaction Effects

Results for testing the interaction effects did not indicate any significant interaction terms at $\alpha = .05$, so we removed the interaction term from each regression model. We reran each revised models to examine the conditional difference between experimental and control groups.

Differences between Experimental and Control Groups

Table 3 reports the results of the regression analyses for testing intervention effects, including test statistics and 95% confidence intervals. We found that, at $\alpha = .05$, there was no significant difference between the experimental and

control groups. The 95% confidence intervals of the estimated group differences were wide on most post-intervention measures, especially *Stress, Social and Academic Integration, Intercultural Sensitivity, Self-esteem, and Perceived Social Support*. The wide intervals were uninformative regarding the true group differences and signs of the possible imprecision of the estimates. Thus, we conducted the additional group mean analyses.

Table 3

Results of Regression Analyses for Testing Group Differences

Model		b	t	95% C.I.
1	Group	.555	.515	[-1.559, 2.669]
	LS_pre	.551	5.259*	[.345, .756]
2	Group	-.35	-.174	[-4.295, 3.595]
	ISS_pre	.607	6.917*	[.435, .779]
3	Group	-.420	-.513	[-2.022, 1.183]
	ISS_IE_pre	.425	4.865*	[.253, .596]
4	Group	-.722	-1.181	[-1.921, .477]
	ISS_IC_pre	.447	6.414*	[.311, .584]
5	Group	-.477	-1.146	[-1.291, .338]
	ISS_IA_pre	.587	6.348*	[.405, .768]
6	Group	.369	.314	[-1.933, 2.672]
	ISS_RCD_pre	.639	4.345*	[.351, .927]
7	Group	.851	1.078	[-.697, 2.399]
	ISSIEN_pre	.337	2.282*	[.048, .627]
8	Group	-1.031	-.980	[-3.092, 1.031]
	CEI_pre	.626	6.329*	[.432, .820]
9	Group	1.244	.903	[-1.457, 3.946]
	SE_pre	.765	6.892*	[.548, .983]
10	Group	.657	.510	[-1.869, 3.182]
	SS_pre	.715	7.957*	[.539, .891]
11	Group	2.956	1.202	[-1.862, 7.774]
	SAI_pre	.464	3.261*	[.185, .743]
12	Group	1.679	1.489	[-.531, 3.889]
	APHS_pre	.550	5.863*	[.366, .734]
13	Group	-7.843	-1.558	[-17.709, 2.023]
	Stress_pre	.954	4.993*	[.579, 1.328]

Note. $*p < .05$.

Additional Information on Group Differences

We examined group means of both pre- and post-intervention measures and computed standardized mean differences (Cohen's *d*) (see Table 4). The standardized mean differences are free of the original measurement scales and can be compared directly. We then compared the post-intervention *d* values to the pre-intervention *d* values to check whether there were changes in standardized mean difference after the intervention. The standardized mean differences improved after intervention on *Interaction*

Enjoyment, *Self-esteem*, and *Stress*. On *Perceived Social Support*, *Social and Academic Integration*, and *Attitudes of Seeking Professional Help*, the experimental group reported lower scores than the control group before the intervention but obtained comparable or higher scores after intervention. On *Interaction Confidence*, however, the experimental group scored higher than the control group in the pre-test but scored slightly lower after the intervention. On *Interaction Engagement*, the standardized mean difference decreased (from .62 to .18), although the experimental group consistently obtained higher scores before and after intervention. On *Interaction Attentiveness*, scores of two groups were almost the same during the pre-test, but after the intervention, the experimental group scored slightly lower than the control group. On the other variables, *d* values were quite similar before and after the intervention.

Table 4
Group Means (SDs) and Standardized Mean Differences

	LS	ISS	ISS_IE	ISS_RCD	ISS_IC	ISS_IEN	ISS_IA	CEI	SE	PSS	SAI	APHS	Stress
						Pre-intervention							
Ctl.	17.90	92.59	23.87	26.00	16.56	12.15	10.72	19.77	38.51	33.51	62.97	36.62	29.14
	(4.25)	(8.05)	(2.64)	(2.37)	(3.02)	(1.68)	(1.88)	(3.96)	(4.45)	(5.41)	(6.69)	(5.40)	(6.24)
Exp	18.52	95.03	25.96	26.84	17.41	12.70	10.68	20.65	38.59	32.07	61.38	35.47	27.36
	(3.95)	(9.25)	(3.55)	(2.56)	(3.39)	(1.60)	(1.65)	(4.15)	(4.93)	(5.50)	(7.28)	(4.81)	(6.73)
d	.15	.27	.62	.33	.26	.34	-.02	.21	.02	-.26	-.22	-.23	-.27
						Post-intervention							
Ctl.	17.62	93.65	27.00	25.06	18.41	11.82	11.35	20.71	36.65	32.41	57.59	33.47	36.90
	(4.91)	(9.30)	(3.61)	(4.31)	(2.29)	2.94)	(2.32)	(5.05)	(8.21)	(6.78)	(13.12)	(5.97)	(17.79)
Exp	18.20	95.42	27.59	26.00	18.12	12.88	10.80	21.14	38.47	31.90	60.15	35.56	27.66
	(4.44)	(9.17)	(3.28)	(3.19)	(2.82)	(1.84)	(1.77)	(4.52)	(5.91)	(5.49)	(8.96)	(4.87)	(8.25)
d	.13	.19	.18	.28	-.11	.51	-.29	.09	.29	-.09	.26	.41	-.86

Ctl: Control group; Exp: Experimental group; *d*: standardized mean difference

DISCISSION

The study aims to examine the impact of the CPP on transition outcomes among first-year graduate-level international students. The regression analysis did not reveal any significantly conditional differences between the experimental and control groups. The nonsignificant results may be partly due to the relatively small sample size, which could lead to the low power of significance tests. The wide (95%) confidence intervals for conditional group differences on most post-intervention measures also indicated a lack of statistical power. The supplemental analyses regarding standardized mean differences revealed substantive findings. The findings in the current study highlight the positive impact of the CPP for the international students in the experimental group compared to their counterparts in the

control group for the following measures: interaction enjoyment during their cultural interaction process; self-esteem levels; stress; perceived social support; social and academic integration; and attitudes toward seeking professional help. The body of past literature and current study findings indicate that increased perception of social support is a common outcome of buddy programs such as CPP participation (Sabouripour & Bte Roslan, 2015; Shigaki & Smith, 1997). International students frequently report feeling isolated and lonely on campus; thus, the friendship and advice of their American counterparts appear to provide a supportive outlet on which international students can rely (Shigaki & Smith, 1997).

Similarly, participation in the CPP increased the degree of social and academic integration experienced by international students, as evidenced by multiple past studies (e.g., Nillson, 2019; Shigaki & Smith, 1997). The collaboration between international and domestic students in the academic settings, facilitated through a structured program such as CPP, may be a contributing factor to this outcome of increased academic integration (Nillson, 2019). Likewise, participation in socially geared activities on campus may help international students to step outside their comfort zone and feel more open to experiencing social interactions with peers (Nillson, 2019). Help-seeking is a less frequently measured outcome in the body of literature. Many of the issues encountered by international students are often addressed after the fact—probably due to a lack of knowledge of resources available on campus and associated stigmas surrounding help-seeking (Kher et al., 2003). The outcome of improved help-seeking behaviors seems consistent with our prediction, as the CPP exposes international students to resources available on campus through domestic students who are likely to have utilized or at least heard of these available sources of assistance. Thus, the CPP may reduce the incidence of challenges international students may encounter as new members of the campus community.

Past findings have indicated that international students may experience a lack of confidence and decreased self-esteem on campus due to language barriers, culture shock, and perceived discrimination (French-Sloan, 2015). Exposing international students to diverse elements of American culture with a "buddy" to help guide them through these barriers seems to result in increased self-esteem. Similar CPP studies reported the interaction enjoyment outcomes both positively and negatively. Studies that randomized buddy pairs considered only certain limited factors in the matching process were found to occasionally result in both international and domestic students experiencing discomfort interacting with their pair (Weir, 2020). The current study carefully considered factors such as age, gender, and academic level,

which might serve as the likely reason behind the positive interaction enjoyment outcome.

Despite the above-mentioned positive outcomes, the international students in the experimental group performed poorer than their counterparts in the control group in several intercultural sensitivity subscales (e.g., interaction engagement, intercultural confidence, intercultural attentiveness), as well as cultural and ethnic identity. The failure of the results to indicate improvement in intercultural sensitivity (except for the subscale of interaction enjoyment) and other scales (e.g., ethnic identity and life satisfaction) in the supplemental analyses may be due to the following reasons: First, a reduction in power resulting from a small sample size may have contributed to the lack of significant findings. Second, intercultural interaction is a complex process that requires expertise and skills to make it work. Previous studies (e.g., Campbell, 2012) have found that developing these outcomes is a lengthy process that may require longer than the short intervention period of the current study. Third, the post surveys were taken at the end of the semester, at a time when international students are likely to experience homesickness after a whole semester in another culture. For most students, it was likely the first time being in a foreign country on their own and living independently away from their past social networks. Considering that it takes time to establish new social networks within an unfamiliar environment, these students are likely to be experiencing high barriers that translate into other struggles across the acculturation process. Thus, despite the potential effectiveness of this intervention in promoting intercultural competence and racial identity development, it may have lacked the strength and the supportive contexts for facilitating shifts in schemas related to intercultural competence and racial identity development.

Practical Implication

The findings of this study offer several practical implications for successful transition experiences. First, the study highlights the benefits of offering international students opportunities for structured interactions with domestic students inside and outside the classroom. Higher education institutions should consider implementing programs such as the Cultural Partnership Program, which not only encourage intercultural interactions but also provide both domestic and international students with guidance on how to engage in these interactions. Higher education institutes may overlook programs of this sort as their benefits remain underrecognized. In implementing a CPP program on campuses, the goals and objectives of the program must be made clear from the start to ensure that the program's full

potential is benefited and widely known. Thus, surrounding students with inadequate program representation might result in students losing benefits and dropping out of the program. Mandating orientations and training for faculty and students may enhance the experience for all participants by clarifying the explicit goals their participation in the program seeks to produce. Program faculty members need to pay attention to the matching criteria utilized in creating buddy pairs, as creating trust and connecting beyond the surface is essential to the success of intercultural interactions. With graduate students, in particular, we see the unique needs they face, as their circumstances may not necessarily align with those of undergraduate students. Thus, ensuring pairs are compatible with their life circumstances is essential to achieve the best results.

Second, higher education institutions need to properly equip their faculty with the necessary skills to facilitate positive interactions and communicate with international students to better understand their unique needs. Universities may consider mandating cultural sensitivity and communication training among all faculty, particularly in roles where there may be greater exposure to international students or intercultural themes within the curriculum. Ongoing workshops and open discussions in which individual faculty can share their experiences and collectively establish best practices to encourage meaningful intercultural interactions and knowledge acquisition in and outside the classroom may be a successful strategy. Further, U.S. institutions must include a level of cultural diversity among faculty that mirrors that of the student body. The voices of international faculty or those with intercultural experiences should be amplified to ensure the first-hand accounts of these successful adults are being considered in formulating programs to assist international students in achieving success in the increasingly globalized workforce.

Finally, universities should create a more inclusive and diverse environment by hosting regular campus events that encourage participation by both domestic and international students. Examples may include international potlucks, international film festivals, or specific holiday celebrations such as Chinese New Year, Diwali, or Oktoberfest. Hosting events of this sort allows students to engage in these intercultural interactions without imposing the additional stress associated with initiating and organizing opportunities for socialization. These events may allow international students to take pride in sharing their cultural heritage with their domestic peers while also providing the opportunity to learn more about American culture. Further, the findings revealed that participation in the CPP increased the help-seeking behavior of international students. Thus, offering

these opportunities in which students may become more comfortable around their domestic peers may increase the help-seeking tendencies of international students outside of the structured intercultural interactions, thereby improving their transition experience and well-being. Universities may utilize these events as opportunities to promote mental health services offered on campus, making international students aware of these services to use if needed.

Research Implications

Considering the differences among students from various countries and cultural backgrounds, future research warrants examining these graduate students' unique transitional experiences. Transition experiences can differ for an international student who has a lot of peers from their own country on campus from that of another international student who has few or no peers from their own country. Research is warranted to compare transition needs and experiences for these groups. An understanding of their needs may assist college campuses in establishing programs tailored to the students' varied situations.

Second, future research may use qualitative approaches (e.g., focus groups, interviews, and case studies) to examine transition experiences and factors associated with the successes and challenges of transitions for graduate-level international students. Understanding these challenges and successes may help comprehend their needs and facilitate the development of transition programs to foster student success.

Third, future research may consider providing a long-term cultural interaction program with an ecological perspective, considering the complexity of intercultural competence development and the challenges of cultural interaction between international students and host students. In addition, future research should pay more attention to environmental factors like institutional policies, strategies, and interventions that help people from different cultures connect with each other.

Limitations

Several limitations exist in the study. First, the participants were recruited from one public research university in the southeast of the U.S.; thus, the sample may not represent the body of international graduate-level students. Second, some subscales of Intercultural Sensitivity had low-reliability estimates, suggesting that the scale scores used might not reasonably represent the constructs of interest. Therefore, results involving these subscales should be interpreted cautiously. Third, the small sample size might cause low statistical power for testing conditional group mean differences and inefficient parameter estimates.

CONCLUSION

Intercultural interactions are essential to enhance transition outcomes, which are pivotal for students' education and career success. The current findings (i.e., standardized mean difference) reveal that the Cultural Partner Program positively impacts some, though not all, transition outcomes for incoming international graduate-level students in the experimental group. Higher education professionals must work hard to create conducive institutional and social environments to foster intercultural interaction and competence.

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