International Students in the U.S.: Social and Psychological Adjustment

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Abstract

In this study, we examined the role of self-esteem, hope, optimism, coping, acculturative stress, and social support on international students' depressive symptoms and sociocultural adjustment. Seventy international students completed a self-report online survey. The most notable finding was that the international students used adaptive and maladaptive coping techniques at similar rates. Greater use of coping techniques, higher acculturative stress and less social support were associated with more depressive symptoms and more difficulty with sociocultural adjustment. Lower self-esteem, less hope, and less optimism were associated with more depressive symptoms, but not sociocultural difficulty. Clinical implications and future directions are also discussed.

Keywords: International Students, Adjustment Issues, Acculturative Stress, Social Support

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In March 2012, the United States Immigration and Customs Enforcement Agency (U.S. ICE, 2012) estimated approximately 879,000 nonimmigrant international students were enrolled in educational programs in the United States. Of these students, approximately 75% were enrolled at the post-secondary level, with approximately 274,000 in bachelor's programs, 210,200 in master's programs, 122,000 in doctoral programs, and the remainder in associate's programs. In addition, there were approximately 172,300 exchange visitor students. Together, both groups of students brought with them over 137,000 dependents, including spouses and children. While international students are certainly a diverse population, a majority of students come from China, South Korea, and India. In addition, international students come to the U.S. from a variety of countries across the world with differing levels of economic, cultural, and language similarity to each other and to their American counterparts. The literature demonstrates that international students in the U.S. face a host of difficulties that may be related to being in an unfamiliar environment including acculturative stress, and issues with psychological and social adjustment (Poyrazli & Grahame, 2007). This empirical study examined these factors in a sample of international students, while also addressing two factors that have yet to be studied in this population:

hope and optimism.

Acculturative Stress

Berry (2008) defined acculturation as, "the process of cultural and psychological change that involves learning to live in new social and cultural contexts after one has become socialized into an earlier one" (p. 50). Acculturative stress is part of the acculturation process defined as the psychological impact of adapting to a new culture (Sandhu & Asrabadi, 1994). Acculturative stress is commonly studied in the international student literature, both as an outcome and a contributing factor to difficulties resulting from entering a new cultural environment.

The available research consistently implicates several factors as contributing to acculturative stress in international students. These factors include region of origin, English fluency, and social support. For example, in a nationally diverse sample of international students, Yeh and Inose (2003) found that students from Europe, with greater English fluency, more social support and higher satisfaction with social support had significantly less acculturative stress than those from non-European nations, with lower English fluency, and less social support. Poyrazli, Kavanaugh, Baker, and Al-Timimi (2004) found that social support, English language fluency, and region of origin were negatively correlated with acculturative stress; with Asian students experiencing more acculturative stress than

European students. Poyrazli and colleagues also demonstrated that Asian students who socialized primarily with other international students had greater acculturative stress. In addition, those with higher English fluency had less acculturative stress, regardless of their primary social group. It appears that region of origin, English fluency, and social support play interactive and important roles in the experience of acculturative stress among international students.

As noted by Berry (2008), the process of acculturation involves both psychological and sociocultural adjustment, so it is expected that stress related to acculturation would influence adjustment in these areas. Acculturative stress has been indicated in many studies as being correlated with or predictive of psychosocial outcomes that are critical to the success of international students in the U.S. In Wilton and Constantine's (2003) study of Asian and Latin American international students, higher levels of acculturative stress were significantly predictive of greater psychological distress. In a study of African, Asian, and Latin American students, acculturative stress was predictive of depressive symptoms, after controlling for demographic variables and English language fluency (Constantine, Okazaki, & Utsey, 2004). Similarly, acculturative stress strongly predicted depressive symptoms in Chinese international students (Wei, Mallen, Heppner, Ku, Liao, & Wu, 2007), and was significantly associated with depressive symptoms in a sample of Chinese and East Indian international students (Rice, Choi, Zhang, Morero, & Anderson, 2012). In a longitudinal study of Taiwanese international students, acculturative stress in the first semester of college predicted depressive symptoms in the third semester, indicating that acculturative stress may have ongoing long-term effects (Ying & Han, 2006). While these studies look at international students from a wide variety of countries and cultural backgrounds, it is clear that experiencing acculturative stress has a consistent negative impact on international students' adjustment in the U.S. In addition to acculturative stress, other factors have been shown to influence international students' outcomes in the U.S.

Other Variables Related to Correlates to Psychological and Sociocultural Outcomes

Self-esteem. Self-esteem is defined as an overall evaluation of one's self-worth (Rosenberg, 1965). Several studies have examined the role of self-esteem in depressive symptoms in international students, and although the samples have been nation-specific, results have consistently shown that self-esteem is related to depressive symptoms. For example, lower self-esteem has been shown to be related to and predictive of clinical levels of depressive symptoms in international students (Rahman, 2003; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008), and higher self-esteem predicts greater overall psychological adaptation (Bektaş, Demir, & Bowden, 2009).

Coping style. The literature on the coping styles of international studentsin the United States is fairly limited, and focused on particular national groups. In a study of Korean international students, Yeh and Inose (2002), demonstrated that these students utilized a wide-variety of coping techniques, such as psychological coping (e.g., meditation and rest), physical coping (e.g., exercise and enjoying home cuisine), problem solving (e.g., behavioral and cognitive efforts to make changes), social support (e.g., emailing friends from home), and entertainment (e.g., watching a movie). Coping efforts may also play a role in psychological and acculturative adjustment. In a group of international students from various Asian countries, suppressive coping (i.e. avoidance of coping and denial of problems), reactive coping (i.e., strong emotional responses, distortion, impulsivity, and cognitive confusion), and lower self-esteem predicted depressive symptoms (Wei et al., 2008). Further, in a longitudinal study of Chinese international students, better acculturative adjustment was associated with a positive problem-solving orientation, as well as confidence in one's ability to cope with being in the U.S. (Wang, Heppner, Fu, Zhao, Li, & Chuang, 2012)The results of these studies, albeit few in number, suggest that coping should be considered more closely when looking at adjustment in international students.

Social support. International students are in a unique position of navigating new social networks that may be affected by cultural and language barriers that American students often do not have to face. Several studies have indicated the importance of social support for international students' adjustment in the U.S. These studies have demonstrated that higher perceived social support is associated with fewer depressive and anxiety-related symptoms, better sociocultural adjustment, and lower levels of acculturative and academic stress (Dao, Lee, & Chang, 2007; Misra, Crist, & Burant, 2003; Sümer, Poyrazli, & Grahame, 2008). In addition, Bektaş and colleagues (2009) found

that maintaining a connection to the home community was essential in psychological adjustment in the new environment. Social support appears to play a significant role in international students' mental health outcomes and adjustment, and should be included when studying international students.

The international student literature is quite extensive and examines many contributing variables and outcomes. However, two areas that have not yet been examined are optimism and hope; two variables that are part of the positive psychology literatureand have been found to contribute to increased psychological adjustment (Seligman & Csikszentmihalyi, 2000). Optimism has been studied among immigrants, with higher levels of optimism predicting fewer depressive symptoms and higher levels of psychological adjustment (Riolli, Savicki, & Cepani, 2002; Uskul & Greenglass, 2005). Immigrants and international students have many differences that distinguish the two groups (e.g., reasons for being in the U.S., immigration status, socioeconomic status, and employment options). However, they may also have some shared experiences in the U.S. (e.g., leaving their home countries, fear or experience of discrimination, culture shock, language barriers), and the influence of optimism on psychological and sociocultural outcomes should be considered in the study of international students.

In addition, Snyder et al. (2000) suggest that higher hope (defined as one's "goal-directed determination" and "planning of ways to meet goals") is related to the ability to generate more coping strategies to deal with stress and to feel more confident in implementing these strategies. Previous studies of nonclinical samples have shown that hope produces unique variance in outcomes above and beyond optimism and self-esteem (Snyder et al., 2000). Given that studies of international students have shown that self-esteem is negatively related to depressive symptoms, hope should be examined in this context to evaluate any additional variance that it may offer above self-esteem in this population.

Purpose

The purpose of this study was to incorporate variables that have previously been examined in international students (self-esteem, coping styles, acculturative stress and social support) with variables that have not yet been examined—optimism and hope—to measure the effects of each on depressive symptoms and sociocultural adjustment in a nonclinical sample of international college students. A better understanding of these factors and their roles in international students' outcomes in the U.S. will offer a framework for the development and implementation of resource programs for international students before and after their arrival in the host country. In addition, understanding specifically what impacts risk for poor mental health outcomes would allow university counseling centers to tailor care for international students. The following hypotheses were proposed for the current study:

1. Self-esteem, hope, optimism, adaptive coping techniques, and social support will be negatively related to depressive symptoms and difficulty with sociocultural adjustment. In addition, maladaptive coping techniques and acculturative stress will be positively related to depressive symptoms and difficulty with sociocultural adjustment.

2. Self-esteem, optimism, hope, coping, social support and acculturative stress will significantly predict participants' depressive symptoms and difficulty with sociocultural adjustment.

Method

Participants

Participants were recruited from the international student offices of various Massachusetts public and private universities, the psychology participant pool at an urban, private university in Boston, an international student online forum, and word of mouth. All participants were entered into a raffle for two gift cards which were distributed at the end of the study. A total sample of 70 adult international students completed self-report questionnaires through an online survey program. Two-thirds of the participants were women and The mean age was 24.19. The majority of students were in the U.S. on non-immigrant, full-time student visas (68.6%), 18.6% on non-immigrant, exchange student visas, and 12.9% were legal U.S. residents. English was not the primary/native language for most participants (80%). The majority of participants were from Asia (47.1%); 15 from Europe (21.4%), with the remainder from South and Central America, North America, the Caribbean, Australia, Africa. This is representative of the national background of international students in the U.S. (U.S. ICE, 2011).

Measures

Demographic questionnaire. Information regarding age, sex, academic major, current degree level, immigration status, native country; language background, and self-reported familiarity and comfort level with English.

Acculturative stress (Sandhu & Asrabadi, 1994). The Acculturative Stress Scale for International Students (ASSIS) contains 36 items rated on a 5-point Likert scale from *strongly agree* to *strongly disagree*. Participants rate how strongly they believe particular situations occur because of their status as an international student (e.g. I am treated differently in social situations; I feel sad living in unfamiliar surroundings here). Total scores can range from 36 to 180 with higher scores indicating higher levels of acculturative stress. The ASSIS has been used in numerous studies on international students and has consistently demonstrated good reliability, with alphas ranging from .87 to .95 in the original article (Sandhu & Asrabadi, 1994**),** and from .92 to .94 in other studies (Constantine et al., 2004; Poyrazli et al., 2004; Wei et al., 2007; Yeh & Inose, 2003).

Sociocultural adjustment (Ward & Kennedy, 1999). The Sociocultural Adaptation Scale (SCAS) is a 29-item measurement developed for use with international students. Participants rate how much behavioral and cognitive difficulty they have had in their host country related to a number of issues (e.g. Dealing with people in authority; Understanding the American value system) on a 5-point Likert scale ranging from *no difficulty* to *extreme difficulty*. Scores can range from 29 to 145 with higher scores indicating greater difficulty in adapting to the host country. Reliability is good as evidenced in the original article with alphas ranging from .75 to .91.

Depressive symptoms (Radloff, 1977). The Center for Epidemiological Studies Depression Scale (*CES-D) w*as used to assess participants' mental health as defined by presence of depressive symptoms. The CES-D contains 20 items (e.g. I had crying spells; I felt lonely) with participants rating how often they behaved or felt this way in the last week using a four point Likert-type scale with responses ranging from *rarely/never (less than once a day)* to *most of the time (5-7days out of the week)*. Scores can range from

0 to 60, with higher scores indicating greater levels of depressive symptoms. The CES-D is widely-used and demonstrates good reliability in studies on international students (alphas ranging from .85 to .91) (Constantine, Okazaki, & Utsey, 2004; Jung, Hecht, Chapman, & Wadsworth, 2007; Wei et al., 2007; Wei et al., 2008).

Self-esteem (Rosenberg, 1965). The Rosenberg Self-Esteem Scale contains ten items rated on a 5 point Likert scale from *strongly agree* to *strongly disagree* used to assess the participant's overall perception of self-worth. Questions look at both positive and negative perceptions of self (e.g., I feel I do not have much to be proud of; I take a positive attitude toward myself). Total scores can range from 10 to 50, with higher scores reflecting higher self-esteem. The Rosenberg Self-Esteem Scale demonstrates good reliability in studies with international students (alphas ranging from .78 to .85) (Al-Sharidah & Goe, 1998; Wei et al., 2008).

Coping style (Carver, 1997). The Brief COPE Inventory consists of 28 items used to assess coping strategies and is adaptable for use with many situations. The participants were asked to reflect on how often they engaged in a wide variety activities in the past week in order to assess general coping strategies using a four point Likert scale from *rarely/never* to *most of the time* (e.g., I've been criticizing myself; I've been trying to come up with a strategy about what to do). Higher scores indicate more frequent use of a particular strategy, and do not reflect the quality of the particular strategy. In a study of international students, a seven subscale factorial structure was supported (Miyazaki, Bodenhorn, Zalaquett, & Kok-Mun, 2008) – Positive Coping, Religion, Self-Blame, Support Seeking, Humor, Substance Use, and Denial. This factorial structure since it is specific to international students, although the Religion and Self-Blame subscales were removed due to low internal consistency in this sample (αs of .007 and .11, respectively). The remaining subscales were split into Adaptive and Maladaptive Coping. Adaptive Coping was made up of the Positive Coping. Support Seeking, and Humor subscales (α = .78). Maladaptive Coping was made up of the Substance Use and Denial Subscales (α = .64).

Social support (Lee & Robbins, 1995). The Social Connectedness Scale-Original (SCS-Original) is a 20-item scale using a 5-point Likert scale from

Table 1

Means, standard deviations, and internal consistency for study measures

	Possible range	M	SD	α
1.Rosenberg's Self-Esteem Scale	10 - 50	37.89	6.08	.85
2. LOT-R (Optimism)	6 - 30	21.24	3.70	.71
3. Hope Scale	12 - 60	42.59	6.27	.80
4. Brief COPE (Coping styles)				
Positive Coping	0 - 18	8.21	3.91	.69
Support Seeking	0 - 15	5.60	2.92	.48
Humor	0 - 6	1.87	1.55	.64
Substance Use	0 - 6	2.64	1.75	.64
Denial	0 - 21	8.5	4.03	.70
5. SCS-Original (Social support)	20 - 100	70.10	12.91	.91
6. ASSIS (Acculturative stress)	36 - 180	83.3	22.24	.94
7. CES-D (Depressive symptoms)	0 - 60	16.79	10.04	.87
8. SCAS (Sociocultural adjustment)	29 - 145	64.59	23.57	.96

Table 2

Intercorrelations between predictor and outcome variables (N = 70)

Personal Characteristics

| Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1 Self Esteem	_	.65**	.61**	.05	.06	.36**	-.24*	-.41**	-.10
2 Optimism		_	.60**	.05	.04	.30*	-.19	-.39**	.04
3 Hope			_	.10	.18	.28*	-.22	-.41**	-.01
4 Adaptive Coping				_	.84**	.08	.25*	.35**	.37**
5 Maladaptive Coping					_	-.07	.33**	.40**	.42**
6 Social Support						_	-.44**	-.46**	-.28*
7 Acculturative Stress							_	.46**	.49**
8 Depressive Symptoms								_	.25*
9. Sociocultural Adjustment									

*p < .05. **p < .001

strongly agree to *strongly disagree* used to assess how connected participants feel towards their social environment (e.g., I feel understood by the people I know; I feel distant from other people). Scores can range from 20 to 100 with higher scores indicating greater social connectedness/support. Reliability was shown to be high (α = .93) in a study of international students from a representative range of countries (Yeh & Inose, 2003).

Figure 1
Mediation model of depressive symptoms
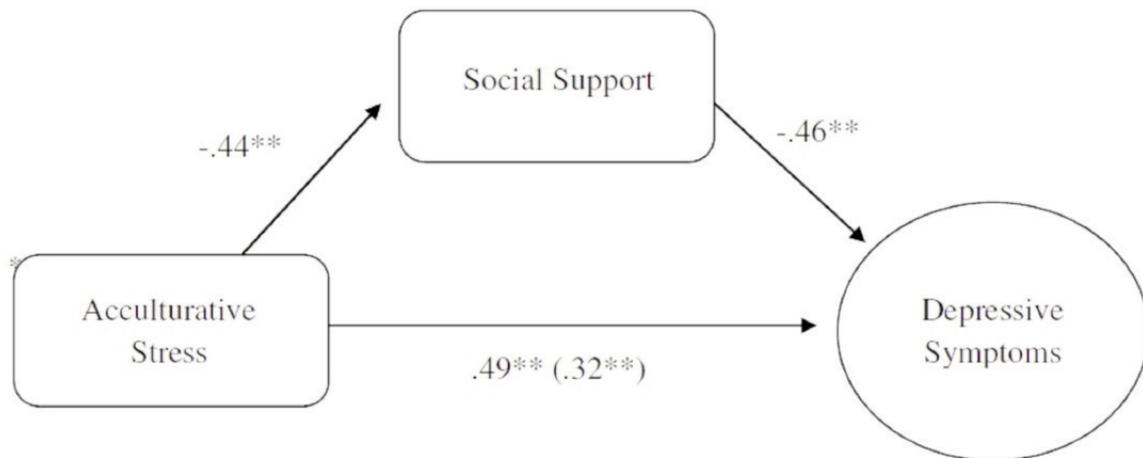
Optimism (Scheier, Carver, & Bridges, 1994). The Life Orientation Test-Revised (LOT-R) contains ten items rated on a 5 point Likert scale from *strongly disagree* to *strongly agree* used to assess participant's general state of optimism (e.g., Overall, I expect more good things to happen to me than bad). Four items are filler items. Scores can range from 6 to 30 with higher scores indicating greater optimism. Reliability is good as evidenced in the original article with an alpha of .78.

Hope (Snyder, Harris, and Anderson et al., 1994). The Hope Scale contains twelve items rated on a 5-point Likert scale from *strongly disagree* to *strongly agree* designed to measure hope (e.g., I can think of many ways to get the things in life that are important to me), defined as a combination of successful *goal-directed determination* and *planning pathways* to meet goals (Snyder, et al., 1994). Each of these two elements is measured by four items (with four filler items), but for this study the total score which can range from 12 to 60, with higher scores indicating greater hope, was used. The original article reported good internal consistency (α = .74 to .84).

Results

Means, possible ranges, standard deviations, and alphas for the current sample for each measure are presented in Table 1. Pearson product-moment correlation coefficients were used to address Hypothesis 1—the relations between personal characteristics (self-esteem, optimism, hope, adaptive and maladaptive coping), social support, acculturative stress, and the outcome variables of depressive symptoms and sociocultural adjustment (see Table 2).

Hypothesis 1 was partially supported. Depressive symptoms were significantly negatively related to self-esteem, optimism, hope, and social support. More frequent use of maladaptive coping strategies and more acculturative stress were associated with more depressive symptoms and sociocultural adjustment difficulty. Of particular note, use of *adaptive* coping strategies was also significantly associated with more depressive symptoms and difficulty with sociocultural adjustment. Self-esteem, optimism, and hope were not significantly related to difficulty with sociocultural adjustment difficulties.

Hypothesis 2 aimed to examine the predictive contributions of personal characteristics, social support, and acculturative stress towards depressive symptoms and sociocultural adjustment difficulties. A stepwise regression was used for each outcome.

Adaptive and maladaptive coping were collapsed into one measure to create a coping composite for the purpose of the regression analysis due to multicollinearity between the two scales (r = .84, p <.001). Collapsing the scales created a more reliable coping measure (α = .90) for this sample. For each model, acculturative stress was entered as the first step, the personal characteristics (self-esteem, optimism, hope and coping composite) as the second step, and social support as the third step.

The overall model for predicting depressive symptoms was significant (see Table 3). However, once social support was entered in the last step, acculturative stress was no longer significant, indicating that social support may act as a mediator

Table 3

Mediation Model for Variables Predicting Depressive Symptoms (N = 70)

	Model 1			Model 2			Model 3		
Variable	*B*	*SEB*	*B*	*B*	*SEB*	*β*	*B*	*SEB*	*B*
Acculturative stress	.21	.05	.46**	.12	.05	.28**	.07	.05	.15
Self-esteem				-.59	.16	-.36**	-.47	.16	-.28**
Coping composite				.28	.09	.32**	.31	.09	.36**
Social support							-.23	.08	-.30**
Adjusted R^2		.20			.37			.43	
F for change in R^2		18.17**			14.48**			13.88**	

*p < .05. **p < .01

Table 4

Regression Analysis for Variables Predicting Difficulty with Sociocultural Adjustment (N = 70)

	Model 1			Model 2			Model 3		
Variable	*B*	*SEB*	*B*	*B*	*SEB*	*β*	*B*	*SEB*	*B*
Acculturative stress	.52	.11	.49**	.44	.12	.41**	.36	.13	.34**
Self-esteem				-.54	.56	-.14	-.41	.57	-.11
Optimism				1.19	.90	.19	1.23	.90	.20
Hope				.04	.52	.01	.03	.52	.01
Coping composite				.57	.22	.28*	.62	.22	.30**
Social support							-.30	.22	-.16
Adjusted R^2		.23			.29			.30	
F for change in R^2		21.70**			6.50**			5.81**	

*p < .05. **p < .01

between acculturative stress and depressive symptoms. In order to test the assumptions of mediation we removed the variables that were not significantly correlated with acculturative stress (i.e., optimism and hope) then re-ran the regression analysis. This model was also significant; with acculturative stress once again no longer significant once social support was entered in the last step. This confirmed that social support acted as a mediator between acculturative stress and depressive symptoms (see Figure 1). In the final model, lower levels of self-esteem and more frequent use of coping were also significant predictors of depressive symptoms. Overall, it appears that for this sample more depressive symptoms are predicted

by lower levels of self-esteem and greater use of coping techniques, with social support affecting how acculturative stress impacts depressive symptoms.

The overall predictor model for difficulty with sociocultural adjustment was also significant, with acculturative stress and coping contributing to this significance. Specifically, higher levels of acculturative stress and greater use of coping techniques were predictive of greater sociocultural adjustment difficulty. These results are presented in Table 4.

Discussion

This study examined the influence of personal characteristics (self-esteem, hope, optimism, adaptive and maladaptive coping), acculturative stress, and social support on depressive symptoms and sociocultural adjustment for international students. The results of this study are mostly consistent with existing literature. Namely, in this sample, those who experienced higher acculturative stress and less social support also had more depressive symptoms and more difficulty with sociocultural adjustment, a finding which has been demonstrated previously (Dao et al., 2007; Misra et al, 2003; Wei et al., 2007; Ying & Han, 2006). In addition, lower self-esteem was also associated with more depressive symptoms, but not sociocultural difficulty.

Uniquely, this study highlights the possible link between hope and optimism, and depressive symptoms in international students. In this sample, more hope and optimism were moderately, but significantly, related with less depressive symptoms. This is not surprising given the overall role of hope and optimism in psychological adjustment seen in the positive psychology literature (e.g. Seligman & Csikszentmihalyi, 2000). However, hope and optimism did not predict depressive symptoms. This may indicate that, while international students who possess these traits may be more generally effective in their psychological adjustment, hope and optimism in this sample were not primarily involved in psychological adjustment.

In addition, the most notable findings of this study were related to the students' coping strategies. Although the international student literature has not looked specifically at adaptive and maladaptive coping, Wei and colleagues (2008) found that the coping techniques of avoidance, denial, strong emotional responses, and impulsive behaviors were associated with more depressive symptoms. These could be interpreted as being "maladaptive techniques" and therefore it was expected that maladaptive techniques in this sample would be similarly positively related to depressive symptoms and sociocultural adjustment difficulty, and that adaptive techniques would be negatively related to these two outcomes. However, in this sample, the international students utilized adaptive and maladaptive coping techniques at a similar frequency, as indicated by the strong, positive correlation between these two subscales. When these adaptive and maladaptive coping subscales were collapsed into one, the total coping composite appeared to be a more reliable representation of how the students in this sample coped, compared to considering each coping subscale separately (as evidenced by the reliability analyses). It is possible that international students use multiple forms of coping simultaneously, and that use of one general type (i.e., adaptive or maladaptive) does not necessarily preclude use of another type. For example, it is not unreasonable that students who seek social support or use humor, may also drink alcohol as a means to cope.

In addition, coping (regardless of type) interacted with other factors to predict outcomes for this sample. Specifically, lower self-esteem, less social support, more frequent coping, and higher acculturative stress predicted greater depressive symptoms. Importantly, social support played a partial role in the predictive relationship between acculturative stress and depressive symptoms, in addition to the direct effect of acculturative stress on symptoms of depression. Greater acculturative stress predicted less social support, which in turn predicted more depressive symptoms – International students who experience more stress in the acculturation process may utilize their social supports less (both from their home country and in the U.S.), which could result in more symptoms of depression (for example, feelings of loneliness or isolation). Coping and acculturative stress were also predictive of sociocultural adjustment difficulty in this sample, such that students who used more coping strategies and had more acculturative stress also experienced more difficulty in their sociocultural adjustment. The previous research supports acculturative stress as being predictive of sociocultural adjustment difficulty (e.g., Wang and Mallinckrodt, 2006), but this is the first time that coping has been examined as a predictor of sociocultural adjustment difficulty. In attempting to understand how the coping composite (which contains both adaptive and maladaptive techniques) contributes to depressive symptoms and sociocultural adjustment

difficulties, it is important to consider whether this is a directional issue. For example, international student may use coping techniques at a greater frequency (regardless of whether they are adaptive or not) once they begin to experience psychological distress and sociocultural adjustment difficulties. Given Yeh and Inose's findings (2002) that certain types of coping techniques tend to revolve around the international students' home culture it is possible that international students use coping techniques that separate them from the host culture, contributing to feelings of isolation and loneliness, as well as difficulty with sociocultural adjustment.

Clinical Implications and Limitations

This study suggests that international students may cope using a variety of strategies, both adaptive and maladaptive. In addition, on average, this sample met the clinical cutoff for mild to moderate depressive symptomatology (Mean = 16; CES-D, 1977), indicating that international students do experience psychological distress. Previous literature (e.g., Tung, 2011) suggests that, despite struggles with acculturation, adjusting socially, and psychological distress, international students may be unlikely to seek help through available university services, particularly mental health services. It is possible that international students who do experience depression may not be engaging in the appropriate mental health services, due to stigma, lack of knowledge about available options, or language barriers. It is essential that universities recognize these students' potential struggles, reluctance to engage in services, and use of multiple coping techniques, and address these issues openly on-campus. These particular issues can be concentrated on during orientation, and also during the semester by enlisting international student associations (both general and nation-specific) to help educate students about issues they may face, and available options to help address their difficulties. Training staff through university counseling centers to lead workshops on reducing stigma associated with seeking mental health services, while also promoting healthy and effective coping strategies, and other alternatives to maladaptive coping, would also be beneficial to international students.

Given the importance of social support seen in this study, universities should focus on creating a sense of community for international students through various forms of outreach programs. For example, the implementation of mentoring relationships and student organizations could help to build social contacts for international students within the U.S. In addition, students could be encouraged to remain in contact with those at home while also developing their social relationships in the U.S. Universities can focus on reducing acculturative stress by playing in a role in preparing students for arrival in the U.S. through various forms of outreach (e.g., housing assistance, connection with students in the U.S., online forums).

This study had several limitations. First, the small sample size of seventy participants limited the analyses that could be run. This limitation necessitated caution in interpreting the results. The generalizibility to international students as a whole group is limited since our sample had students from many different geographic regions and with differing English language proficiency. The gender imbalance of the sample also may have skewed results, and therefore results need to be considered with this in mind. It might be difficult to generalize the results to male international students. We also do not know whether these international students were engaging in any mental health treatment. Finally, given that we do not know how long the students were in the U.S., it is unclear how length of time in the United States may have influenced this sample's experiences and outcomes.

The second limitation involves the measures. Although Rosenberg's Self-Esteem measure is a well-validated and widely used measure, including in the international student literature, self-esteem is considered by many to be a Western construct and may not be entirely meaningful in an international student sample. The Social Connectedness Scale does not differentiate between participants' social support in their home country and in the U.S.; therefore it is unclear which social supports they were describing. In the future it would be useful to use this scale twice; referring separately to social support in the home and host country in order to see how social support in each location may affect outcomes. Four questions had to be removed from the Brief COPE due to low reliability. The division into "adaptive" and "maladaptive" coping was based on the authors' logical preference, not a specific theory. In addition, there was no question to find out how long the students had been in the U.S., which has been shown in previous studies to be predictive of both depressive symptoms and

sociocultural adjustment in international students.

There may be limitations involved with online data collection. There is no way of knowing the environment that the student completed the survey in and there is no control over the conditions. Finally, this is a cross-sectional study and therefore no causation can be inferred or determined, and predictive results should be interpreted with caution.

Future Directions

Future studies should focus on investigating international students' preparations and expectations prior to arrival in the U.S. and the impact of these on outcomes. This could be examined in international students collecting baseline data on psychological variables, such as depression or anxiety, as well as qualitative data regarding preparation and expectations prior to arrival in the U.S., with follow-up after arrival in the U.S. at several different time points.

In addition, it is interesting to note that the majority of international students are usually in the U.S. for a limited period of time due to immigration issues, and it is possible that their experience of acculturation (and the associated stress) may be different than that of permanent immigrants. Future studies could investigate differences in the desire to acculturate, acculturative stress, and psychosocial outcomes between international and immigrant college student populations. The results regarding hope and optimism in this study were inconclusive, and future qualitative work on these two variables may be helpful in developing more fitting research questions related to hope and optimism.

In conclusion, this study supports the importance of the role of acculturative stress, social support, and coping in depressive symptoms and sociocultural adjustment among international students. It also added to the international student literature by examining the variables of hope and optimism for the first time in this population. The results of this study can contribute to the overall international student literature that seeks to inform professors, administrators and clinicians on the difficulties that international students face in the United States.

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