

Attachment Patterns of East Asian International Students and Sources of Perceived Social Support as Moderators of the Impact of U.S. Racism and Cultural Distress

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International students' struggles for academic success and cultural adjustment in the U.S. are made more difficult by their experience of racism. The International Student Office (ISO) on many campuses offers an alternative third source of support to augment support from new friends in the host culture, and friends and family back home. In this study, students ($N = 52$) from East Asian countries who had been in the U.S. less than three years completed measures of adult attachment, perceived social support, stressful life events, experiences of racism, and psychological symptoms of distress. Attachment security was associated with more support from the new friends in the U.S. Support from the ISO appeared to significantly buffer the effects of racism perceived by international students.

International students comprise approximately 3% of the total enrollment in U.S. institutions of higher education (U.S. Department of Education, 1998). Although many international students complete their studies with relatively few difficulties, others experience problems such as poor social integration, problems in daily life tasks, homesickness, role conflicts, academic concerns, and difficulties in cultural adjustment (Mallinckrodt & Leong, 1992; Pedersen, 1991; Sandhu, 1994; Yang & Clum, 1995). Upon

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arriving, many international students lose the shared identity and much of the support that comes with proximity to family and peers (Pedersen, 1991). As a consequence, they often feel lonely as they struggle with the tasks of developing new relationships and rebuilding a support system (Hayes & Lin, 1994; Lewthwaite, 1997). Although research points to the benefits of social contact with host nationals (Kagan & Cohen, 1990), unfortunately, the relationships of most Americans with international students rarely go beyond fairly superficial contacts, and many international students soon give up hope of establishing deep cross-cultural friendships (Heikinheimo & Shute, 1986). Surveys suggest that most international students do not enjoy satisfying intercultural friendships with American students (Furnham & Alibhai, 1985). Tragically, international students are sometimes also the target of racism (Rachavong, 1992; Sandhu & Asrabadi, 1994), a problem that has grown more serious after the terrorist attacks of September 11, 2001 (Bartlett, 2001).

In order to meet needs for social connection, many international students identify with a strong in-group community of “co-nationals” in the U.S. that provides new primary relationships, a sense of belonging, and a vital avenue to share familiar cultural values and practices. However, too much immersion in a co-national group can lead to further isolation from sources of potential support in the host culture (Furnham & Alibhai, 1985). On many campuses, an International Student Office (ISO) can provide a valuable bridge by facilitating the development of support from co-nationals, international students from other countries, and U.S. students (Ahuna & Mallinckrodt, 1989). A major purpose of the current study was to compare perceptions of social support from these three sources: (1) family and friends in the home culture, (2) new contacts in the host culture, and (3) the programmatic efforts of the campus ISO.

It is important to note that our study was only concerned with *perceptions* of social support reported directly by international students themselves. Other

approaches to studying social support involve counting numbers of close friendships, or having subjects keep diaries of supportive behaviors experienced over a fixed time period. However, a considerable body of research (Lakey & Dickinson, 1994; Lakey, McCabe, Fiscaro, & Drew, 1996) now suggests that these measures of “enacted” support are not as closely associated with psychological well-being as assessment of perceived social support (PSS). A large body of research indicates that PSS has both direct benefits, and indirect “buffering” effects with respect to stress (Pierce, Sarason, & Sarason, 1996). Direct effects imply that PSS has a positive impact on adjustment regardless of how much stress one experiences. In contrast, significant interaction of PSS with levels of stress in predicting levels of stress symptoms provides evidence for buffering (moderating) effects of PSS. When buffering effects are present, PSS is relatively more useful to persons experiencing high levels of stress than to persons who are relatively stress-free. For Asian international students, some research has found a significant buffering effect for PSS, but no significant direct effects (Yang & Clum, 1994).

Recent studies suggest that PSS may be influenced not only by environmental factors but also by individual differences in social skills and trait-like dispositions that have been termed collectively “social competencies” (see Mallinckrodt, 2000 for a review). Attachment theory proposes the concept of “secure base” in which secure attachment to caregivers (including mental representations of temporarily absent loved ones) provides a comforting presence that reduces anxiety and promotes feelings of security in novel situations. From this secure base, a child or adult is able to explore the physical or social environment (Bowlby, 1988). Recent research suggests that attachment patterns established in childhood have a major influence on social behaviors of adults in Western societies, including the ability to regulate anxiety and recruit new friendships in novel social situations (Cassidy & Shaver, 1999; Spertling & Berman, 1994).

In a large sample of U.S. undergraduates, Brennan, Clark, and Shaver (1998) identified two different dimensions of insecure attachment. Persons with increasing attachment *anxiety* tend to fear abandonment and crave emotional proximity. Persons with attachment *avoidance* tend to fear emotional intimacy and crave relative autonomy. Persons who score low in both dimensions are considered to have *secure* attachments. In a group comparison of U.S. undergraduates, Searle and Meara (1999) found that those with secure attachment combined high emotional expressiveness with relatively lower levels of emotional intensity and attention to emotion; whereas students in one of the three groups outside the secure category exhibited less adaptive combinations of emotional expressiveness, intensity, and attention. However, the applicability of attachment theory constructs in non-Western cultures has recently been questioned (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000), and recent evidence suggests that Western beliefs about the ideal forms of adult attachment (especially in connection with emotional communication) are not widely shared in Chinese culture (Wang & Mallinckrodt, 2003). It is possible that in some cultures outside the U.S., secure attachment involves the affirmative presence of other qualities rather than simply the absence of anxiety and avoidance. Thus, three dimensions may be required for a full assessment of adult attachment (Feeney, Noller, & Hanrahan, 1994). Although we could locate no previous study of attachment and PSS in international students, it is possible that the attachment dimensions of avoidance, anxiety, and security may influence PSS from the three important sources of support previously discussed.

Specifically, the first purpose of this study was to examine the relationship between three dimensions of adult attachment (i.e., security, anxiety, and avoidance) and: (1) PSS from family and friends in an East Asian international student's home culture; (2) PSS from new friendships in the U.S.; and (3) support perceived from the ISO. We hypothesized that higher levels of attachment security, and lower levels of avoidance and anxiety would be positively associated with higher levels of PSS from all

three sources. We expected that these links would be especially strong for new contacts and perceptions of ISO support, because we expected the “secure base” aspect of attachment would be especially helpful to quickly re-establish a new network of supportive relationships in unfamiliar surroundings. The second purpose of this study was to examine both direct and indirect (buffering) effects of PSS from these three sources on the relation between stressful life events (including the experience of racism) and psychological symptoms of distress. Among all the possible sources of stressful life events, we were particularly concerned about incidents of racism directed toward international students. We hypothesized that support from new friends in the U.S. would be effective in buffering the harmful impact of incidents of racism, because we hoped that strong support from members of the host culture could serve to counteract some of the damage done by racist behavior from other members of the same (i.e., U.S.) culture. Finally we explored the possibility that the insecure dimensions of attachment anxiety and avoidance are directly related to more negative life events and higher symptoms of distress.

Method

Participants and Procedure

International students from China, Hong Kong, Japan, Korea, or Taiwan who were enrolled at a medium-sized (enrollment of 18,000) public university in the Pacific Northwest were solicited for participation in this study. The focus of our study was on international students from these countries because (1) the applicability of the core constructs of attachment theory such as “secure base” has been specifically questioned for persons from East Asian cultures, and (2) students from these countries comprise about one-third of all U.S. international students (U.S. Department of Education, 1998).

A total of 251 names and addresses of students from these countries were listed in the “East Asia” portion of a directory of international students.

As a condition of gaining access to this mailing list, we agreed to send only a single mailing of the survey. We agreed to collect demographic information on sex and age only, but not country of origin, because the combination of all three demographic variables would be tantamount to personal identification of students in several cases (e.g., there were only a few female students from mainland China enrolled at this university). Using a return envelope separate from the one used for their anonymous survey, participants were given the opportunity to enter their name in a raffle drawing for a \$20 first prize gift certificate to a local restaurant, and thirty second prizes of \$2 coupons for videotape movie rentals. Of the 251 survey packets mailed, 19 were returned because students had moved and left no forwarding address. Of the remaining 242 students, 73 (30%) returned completed surveys.

We believed that many international students who experience great initial difficulty recruiting social support will either eventually develop a minimally functioning support network if given enough time, or they will leave the university. Because we were interested in the crucial period of the first few years' adjustment and support network formation, we included only students who had been in the U.S. for less than three years. Of the 73 students who responded to our survey, 13 had been in the U.S. for three years or longer. Due to an inadvertent error in photocopying the survey, an additional eight students had missing data. The remaining 52 international students retained for analyses included 33 (64%) women and 19 (36%) men. Their mean age was 24.26 years ($SD = 4.43$, range = 18–37 years). They had been in the U.S. for an average of 1.44 years ($SD = 0.75$).

Instruments

Attachment Style Questionnaire (ASQ)

The ASQ (Feeney et al., 1994) is a 40-item self-report measure that assesses dimensions of adult attachment. The ASQ uses a 6-point fully anchored Likert-type response scale (1 = totally disagree, 6 = totally agree). Factor analyses support both a three- and five-factor structure for the ASQ.

To reduce the number of analyses in this study, we adopted the three-factor solution. These three subscales measure: (1) Security — comfort with intimacy and depending on another, as well as confidence that one is valued and would be helped in time of need; (2) Anxiety — involving fears of abandonment and strong needs for approval; and (3) Avoidance — involving discomfort with intimacy and beliefs that close relationships should receive a lower priority than achievement. Feeney et al. report internal reliability (coefficient alpha) for the Security, Anxiety, and Avoidance subscales of .83, .83, and .85; and retest reliability ($n = 295$, 10-week interval) of .74, .75, and .80, respectively. They also report correlations of the ASQ in expected directions with self-descriptions of adult attachment style, and measures of family functioning and parenting style.

Index of Life Stress (ILS)

The ILS (Yang & Clum, 1995) is a 31-item measure of stressful life events designed especially for East Asian international students. Responses are given on a 4-point scale (1 = never, 4 = often) to indicate the frequency that a particular stressful event is experienced. Factor analysis indicated that the items assort into five interpretable categories of stressful events: (1) concern about finances and a desire to stay in the U.S.; (2) language difficulties; (3) interpersonal stress, primarily due to the effects of racism; (4) stress from cultural adjustment and desire to return home; and (5) academic pressure. Yang & Clum report retest reliability ($n = 20$, one-month interval) for the total scale of .87, and internal reliability (KR-20) of .86. They also report that the ILS was significantly correlated in the expected direction with measures of depression, loneliness, and suicide ideation.

We modified the ILS for use in the present study by dropping an item about owing money to others which Yang and Clum (1995) found did not load on any of their five subscales. We deleted six additional items which began with the phrase “I don’t like ...” (American food, music, religion, etc.) which had very low item-total correlations in our sample. We reasoned

that these items measured preferences that, strictly speaking, could not be considered stressful life “events.” Five of the six items that comprise the interpersonal stress subscale of the ILS deal with racism (e.g., “I can feel racial discrimination toward me from other students,” “People treat me badly just because I am a foreigner”). We dropped the sixth item tapping difficulty in opposite sex relationships to create a subscale that exclusively tapped experiences of racism in the U.S. This modified Racism subscale was the only one of the five subscales we analyzed individually. Internal reliability (coefficient alpha) for the Racism subscale in our sample was .79, and coefficient alpha for the revised total ILS score (including the five racism items) was .83.

Index of Social Support (ISS)

The ISS (Yang & Clum, 1995) contains 40 items designed to measure Asian international students’ perceptions of social support. The ISS uses the same 4-point scale as the ILS (1 = never, 4 = often). In this study, items were assigned on conceptual grounds to three subscales to measure: (1) home support, from family (both nuclear and extended family) as well as friends in the student’s country of origin (15 items, e.g., “My old friends in my home country are available when I need them”); (2) new contact support, from friends and contacts made in the student’s new community in the U.S. (10 items, e.g., “My new friends in the U.S. mean a lot to me”); and (3) ISO support (5 items, e.g., “The International Student Center on campus means a lot to me”). Internal reliability (coefficient alpha) for the three subscales were .89, .89, and .87, respectively. Yang & Clum report that retest reliability ($n = 20$, one-month interval) for total ISS scale scores was .81. The ISS was significantly correlated in the expected direction with measures of depression, loneliness, and suicide ideation.

Brief Symptom Inventory (BSI)

The BSI (Derogatis & Spencer, 1982) is a global indicator of current psychological functioning. The BSI lists 53 symptoms to which participants

respond using a 5-point scale (0 = not at all, 4 = extremely) to indicate how much they were distressed in the last seven days by that complaint. The previous seven days is a period judged to be the best interval for capturing the current impact of stressors. The BSI items are used to calculate a total "Global Severity Index." Test-retest reliability (two-week interval) of .90 for the total Global Severity Index has been reported, as well as considerable evidence of convergent, divergent, and predictive validity in use with U.S. samples (Derogatis & Spencer, 1982).

Results

Preliminary Analyses

The 19 male students were compared to the 33 female students with regard to all measured variables. Results of a one-way multivariate analysis of variance (MANOVA) indicated no significant differences, $F(9, 42) = 1.05, p = ns$. Thus, data from men and women were combined in subsequent analyses. Although the BSI has been used in numerous studies of Euro-American participants, its validity as a measure of stress symptoms for Asian students has not been well established. Therefore, correlations between the nine BSI subscales and total scores on the ILS were examined. Seven BSI subscales were significantly correlated with modified ILS scores, and two subscales (hostility and paranoid ideation) were not significantly correlated. We reasoned that any subscale of the BSI (our measure of symptoms) that was not significantly correlated with the ILS (our measure of stress) might have questionable validity for use in our sample. Subscales that tap tendencies toward suspiciousness (such as the BSI paranoid ideation scale) may be invalid for use with ethnic minority clients, whereas scales that measure overt hostility may be invalid for use with persons from East Asian cultures. Thus, a modified score was calculated by summing the 43 BSI items remaining after excluding the hostility and paranoid ideation subscales.

Tests of Hypotheses

The first purpose of this study was to examine associations between

three dimensions of adult attachment (security, anxiety, and avoidance) and three sources of PSS (home, new contact, and ISO). Results of Pearson product-moment correlations shown in Table 1 indicate that adult attachment security was significantly positively associated with PSS from all three sources, a finding congruent with the “secure base” notion that secure attachment facilitates perceptions of new support available from the host culture. However, contrary to expectations, neither adult attachment anxiety nor avoidance was negatively associated with social support. The direct effects of these three sources of support are shown in the 4th, 5th, and 6th rows of Table 1. None of the three sources of PSS were significantly associated with modified BSI scores, suggesting that there were no direct effects for PSS on stress symptoms. However, students who perceived more

Table 1 Correlations Between Adult Attachment, Social Support, Life Events Stress, and Psychological Symptoms

	Attachment		Social support			Life events		Distress
	2	3	4	5	6	7	8	9
Attachment								
1. Security	-.25	-.15	.39**	.30*	.31*	-.29*	-.22	-.38**
2. Anxiety	—	.08	-.24	-.16	-.04	.41**	.36**	.47**
3. Avoidance		—	-.13	-.09	-.25	.01	-.16	.15
Social support								
4. New contact			—	.39**	.39**	-.33*	-.23	-.19
5. Home support				—	.46**	-.26	-.32*	-.11
6. International Student Office					—	-.25	-.16	-.02
Life events stress								
7. Total ILS score						—	.67**	.43**
8. Racism ILS subscale							—	.26
Psychological distress								
9. Brief Symptom Inventory (selected items)								—

Notes: $N = 52$; * $p < .05$, ** $p < .01$.

new contact social support reported fewer negative life events, and students who perceived more home support reported fewer racism life events.

To test for buffering (interaction) effects of PSS, hierarchical multiple regressions were conducted, following the procedure recommended by House (1981). For each analysis, modified BSI scores served as the criterion. In the first step of these analyses, one of the three forms of social support was entered (new contact, home, or ISO) to account for the direct effects. In the second step, total negative life events stress was entered in the first three analyses, whereas in the second step of the 4th, 5th, and 6th analyses, level of racism negative life events was entered. Finally, in the third step of all six analyses, a term was entered resulting from the multiplied product of the particular source of PSS and type of stress entered in the first two steps. This product term represents the buffering effects for a particular source of PSS on a particular source of stress. Only after the simple direct effects were accounted for in the first two steps of each analysis were the extent of buffering effects determined by examining the increment in R^2 for the third step. Results shown in Table 2 indicate that there were no significant buffering effects for social support perceived from either home or new contact sources. However, "Analysis No. 6" indicates significant buffering effects of support perceived from the ISO against the negative effects of racism. Although support from the ISO was unrelated to symptoms of distress as a direct effect (step 1), the interaction of perceived ISO support and racism in step 3 accounted for 8% of the variance in psychological symptoms of distress.

Following the procedure recommended by Jaccard, Turrisi, and Wan (1990) to interpret this interaction, the sample was divided into three approximately equal-sized groups of high, medium, and low levels of support perceived from the ISO. Pearson product-moment correlations were calculated between racism negative life events and modified BSI scores separately for each of these three groups. These correlations were .57, .16, and -.03 for the low, medium, and high support groups, respectively. This

Table 2 Hierarchical Multiple Regression to Examine Social Support Buffering Effects

Step/Variable entered	R ²	Change in R ²	F Change	B	SE B	β
<i>Analysis No. 1: Buffering effects of home support</i>						
Step 1: Home social support	.01	.01	0.56	.002	.091	.034
Step 2: Negative life events	.18	.17	10.18**	.002	.005	.448**
Step 3: Negative life events × home support interaction	.21	.03	-1.75	.001	.010	-.172
<i>Analysis No. 2: Buffering effects of new contact support</i>						
Step 1: New contact social support	.04	.04	1.91	-.004	.073	-.08
Step 2: Negative life events	.18	.15	8.86**	.001	.006	.273
Step 3: Negative life events × new contact support interaction	.22	.04	2.36	-.001	.006	-.234
<i>Analysis No. 3: Buffering effects of support from the ISO</i>						
Step 1: Support from the ISO	.00	.00	0.01	.004	.062	.092
Step 2: Negative life events	.19	.19	11.56**	.002	.005	.460**
Step 3: Negative life events × ISO support interaction	.25	.06	3.61	.001	.006	-.238
<i>Analysis No. 4: Buffering effects of home support on racism</i>						
Step 1: Home social support	.01	.01	0.56	.001	.102	.014
Step 2: Racism life events	.07	.06	3.03	.003	.018	.235
Step 3: Racism life events × home support interaction	.09	.02	0.94	-.003	.031	-.142
<i>Analysis No. 5: Buffering effects of new contact support</i>						
Step 1: New contact social support	.04	.04	1.91	-.007	.076	-.140
Step 2: Racism life events	.09	.05	2.69	.003	.026	.223
Step 3: Racism life events × new contact support interaction	.09	.00	0.00	.000	.028	-.001
<i>Analysis No. 6: Buffering effects of support from the ISO</i>						
Step 1: Support from the ISO	.00	.00	0.01	.003	.064	.053
Step 2: Racism life events	.07	.07	3.63	.003	.017	.230
Step 3: Racism life events × ISO support interaction	.15	.08	4.55*	.004	.020	-.288*

Notes: N = 52; *p < .05, **p < .01.

Criterion variable for all analyses was the Brief Symptom Inventory (selected items). ISO = International Student Office

is exactly the pattern to be expected from significant buffering effects. Among the international students with the lowest level of support perceived coming from the ISO, racism events were strongly associated with symptoms of distress ($r = .57, p < .05$), whereas for the group reporting the most perceived social support from the campus ISO, racism events were unrelated to symptoms of psychological distress.

Discussion

The first purpose of this study was to examine three aspects of East Asian international students' adult attachment (i.e., security, anxiety, and avoidance) as these are related to PSS from three sources (i.e., home, new contact, and ISO). The attachment theory constructs of secure base and social competencies predict that high levels of security and low levels of anxiety and avoidance should be associated with high levels of PSS (Mallinckrodt, 2000), particularly perceptions of support in the new social environment of the U.S. Recently a lively debate has grown between one group of cross-cultural scholars (see Rothbaum et al., 2000) who believe that attachment theory is so laden with Western values that it is inappropriate to apply to infants and caregivers in East Asian cultures, and another group of experts (Posada & Jacobs, 2001; van IJzendoorn & Sagi, 2001; Waters & Cummings, 2000) who believe that these attachment theory concepts do have universal cultural applicability — provided that researchers properly account for the specific cultural context.

Although our findings do not support either side in this debate regarding attachment in young children, our results do suggest that, as expected, security in *adult* attachment was significantly associated with higher levels of PSS from all three sources. International students in our sample with the highest levels of attachment security also reported the highest level of perceived support from new friends in the U.S., higher PSS from the ISO, and also more PSS from family and friends back home. The correlation

between attachment security and perception of new contact support was the highest of the three — a pattern that is consistent with attachment theory constructs of secure base and social competencies (Mallinckrodt, 2000), which hold that secure attachment in childhood equips adults with the competencies to regulate anxiety and develop a set of new supportive friendships in novel social situations.

However, contrary to expectations, adult attachment anxiety and avoidance were *not* negatively associated with social support levels in this study. This finding suggests that unlike the pattern expected in Western culture based on studies of U.S. undergraduates (e.g., Brennan et al., 1998), attachment security among the international students in our sample involved something more than merely the relative absence of attachment anxiety and avoidance. In fact, this conclusion is supported by a recent study which found that the concept of ideal, emotionally healthy, secure attachment in Taiwanese Chinese culture involved elements that were considered as belonging to both attachment avoidance and anxiety from the perspective of Western ideals of attachment security (Wang & Mallinckrodt, 2003).

The second purpose of our study was to compare the direct and buffering effects of these three sources of PSS against the effects of negative stressful life events in general, and against the negative effects of racism specifically. Surprisingly, none of these sources of PSS had a direct effect on psychological symptoms of distress — a finding contrary to a large body of studies based on Western samples (cf. Cutrona & Russell, 1990). However, support perceived from new contacts was negatively correlated with total life events, and support perceived from home was negatively correlated with racism life events. These correlations can be considered a kind of “shielding” effect, in which international students with more PSS report a lower base rate of negative stressful life experiences. Perhaps PSS from family and friends at home alleviates some of the need for extensive contact with the U.S. culture, and thus reduces potential exposure of international students

to incidents of racism. If extensive attempts to build supportive relationships in the U.S. increases exposure to racism, high levels of PSS from family and friends at home may shield international students from encountering high levels of race-based discrimination (Furnham & Alibhai, 1985). Similarly, a continuing but relatively unsuccessful search for support from new contacts in the U.S. may expose international students to a higher number of generally stressful life events (not only incidents of racism). An alternative explanation for these findings may be generalized halo effects, or other common influences from unmeasured variables. For example, a general disposition toward optimism and positive appraisal of ambiguous social situations may influence high ratings of PSS and low reports of stressful life events.

Whereas “shielding” effects reduce the base rate exposure to stressful life experiences, “buffering” effects are observed in persons who *do* experience high levels of these stressful experiences. Buffering effects are observed when the resources provided by a particular type of perceived support are well matched to the coping demands of a particular stressful life event (Cutrona & Russell, 1990). Only one significant buffering effect was evident in our findings. It appears that something about the support perceived as coming from this campus ISO may have been particularly helpful in reducing the negative impact of racism. Because the bivariate correlation between perceived ISO social support and racism negative events was *not* significant, it would be incorrect to conclude that contact with the ISO somehow protects international students from the experience of racism. Rather, the findings are consistent with a buffering effects interpretation, namely, that perceived social support from the ISO helps international students who *do* experience racism reduce its negative psychological impact.

Research suggests that international students who report that they can recognize racism in the U.S., as well as that they have some capacity for

dealing with it, were *more* likely than other international students to use the counseling center (Boyer & Sedlacek, 1989). Perhaps this tendency extends to other student affairs services like the ISO. International students who seek support from the ISO may receive helpful suggestions about how to deal with intolerant acts. Also, ISO support may allow international students to establish supportive and validating friendships with other international students who have successfully developed coping strategies to deal with racist experiences.

Our final research question explored possible direct connections between attachment and stress symptoms for East Asian international students. Interestingly, attachment security appears to be associated with fewer stressful life events and symptoms of distress, whereas attachment anxiety is related to both more life events stressors and more stress symptoms. Such findings suggest that East Asian international students in this study who endorsed a sense of comfort with intimacy and depending on others, as well as confidence in being valued and helped in time of need, may experience fewer negative life events and distress. On the other hand, an anxious attachment style appears to carry with it increased risk for negative life events and psychological stress symptoms. These results are consistent with a comparison of Korean and Euro-American college students which found that the Korean students' scored higher on "preoccupied" attachment (i.e., had higher attachment anxiety) and tended to have a lower level of intimacy in their closest friendships (You & Malley-Morrison, 2000).

There are a number of methodological limitations that warrant caution in interpreting the results of this study. First, the ISS does not make a distinction among the various sources of support that we labeled "new contact." Thus, "new friends in the U.S." for many survey respondents probably referred to Euro-American fellow students or neighbors, but the term could also refer to co-national or international students from other countries that are new friendships made since arriving in the U.S. It is

important not to confuse “new contact” support with support exclusively from members of the host (i.e., U.S.) culture. Further, all measures used in this study are subject to the biases inherent in self-report instruments, including inflation of correlations that occur from common method variance. With the exception of the ILS and ISS, measures used in our study have not been validated with East Asian samples, although we attempted to modify the BSI, and we selected a measure of attachment developed outside North America (i.e., Australia). It should also be noted that these data were collected before the terror attacks of September 11, 2001. It is uncertain how these events influenced East Asian international students’ experience of racism on this campus.

The low return rate limits generalizability. Although our requirement to keep the survey completely anonymous increased the likelihood of respondents disclosing potentially embarrassing information, it precluded vigorous efforts to boost the return rate. We would argue that a 30% return rate is to be expected under these constraints of data collection, and considering this population. The small sample size also reduces statistical power. Unfortunately, the requirement to preserve anonymity prevented us from gathering detailed information about the home country of the international students we surveyed. We can only say that they came from China, Hong Kong, Japan, Korea, or Taiwan — without knowing the proportion that came from each country. Clearly, we did not sample a homogeneous culture, and we cannot be very precise about the mixture of cultures that we did sample. Finally, the caution that correlations should not be interpreted as proof of causation is especially relevant for our results. Clearly, the results of this study must be regarded as preliminary.

Although more research is needed, especially studies with larger and more precisely defined samples, findings of the present study do offer at least some tentative suggestions about implications for theory and practice. It appears that the attachment theory construct of secure base and related

social competencies can be applied, at least with regard to adults from selected East Asian cultures, to gain a better understanding of how sojourners to a new culture recruit new sources of support in the first years after their arrival. Although the construct of attachment security appears to be related to establishing new support networks, the constructs of attachment anxiety and avoidance appear not to be related to social support for the international students in our sample — in contrast to findings from Western college students. Further studies are needed to confirm and explain these patterns (Wang & Mallinckrodt, 2003). Although only one of the three attachment constructs studied was related to social support, all of the three sources of social support demonstrated a significant “shielding” effect for sources of stress, or buffering effect on symptoms of stress. An important unexplained question in this study is why there were no direct beneficial effects of social support.

Absence of direct effects notwithstanding, both shielding effects and buffering effects offer possibilities for programmatic interventions that help international students adjust to the campus environment. Unfortunately, we live in a time of increased racism and violence directed at international students — and directed not only at students from Islamic cultures (Bartlett, 2001). Findings of this study suggest that the ISO might play a major role in mitigating the effects of this increased racism. Future studies are needed to identify particular aspects of the wide menu of services offered at ISOs, such as the one we studied, that international students find most beneficial in facilitating their adjustment, maximizing the positive aspects of their stay in the U.S., and giving them the tools to cope with some of the most negative aspects.

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**探索美國種族歧視與文化適應對東亞國際學生的衝擊：
以依附關係模式和社會支持來源為調節變量**

在美國的國際學生常因為受到種族歧視，致令他們在追求學業成就和文化適應上變得愈來愈困難。他們除了在美國結識的新朋友及原有家人朋友處尋求支持外，現在許多大學都在校園裏設立國際學生辦事處（International Student Office），為這些學生提供另一種尋求支持的選擇。本研究以問卷調查了52位來自東亞國家的國際學生，他們在美國的日子均少於三年。問卷量度了他們在成人依附關係、社會支持、生活壓力事件、種族歧視經驗、以及心理困擾症狀等方面的情況。研究結果顯示：安全的依附關係與較多美國新朋友的支持有關；對於國際學生感受到種族歧視的衝擊，國際學生辦事處的支持具有顯著的緩衝效應。