

Profiles of Acculturative Adjustment Patterns Among Chinese International Students

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This is the first study to empirically identify distinct acculturative adjustment patterns of new international students over their first 3 semesters in the United States. The sample consisted of 507 Chinese international students studying in the United States. Using psychological distress as an indicator of acculturative adjustment, measured over 4 time points (prearrival, first semester, second semester, and third semester), 4 distinct groups of student adjustment trajectories emerged: (a) a group exhibiting high levels of psychological distress across each time point (consistently distressed; 10%), (b) a group with decreasing psychological distress scores from Time 1 to Time 2 (relieved; 14%), (c) those with a sharp peak in psychological distress at Time 2 and Time 3 (culture-shocked; 11%), and (d) a group with relatively consistent low psychological distress scores (well-adjusted; 65%). Moreover, significant predictors of a better acculturative adjustment pattern included having higher self-esteem, positive problem-solving appraisal, and lower maladaptive perfectionism prior to the acculturation process. In addition, during the first semester of studying in the United States, having a balanced array of social support and using acceptance, reframing, and striving as coping strategies were associated with a better cross-cultural transition. Practical implications and future directions were also discussed.

Keywords: international students, acculturative adjustment, coping, social support, growth mixture modeling

International students are a unique and growing population in the United States, with 732,277 enrolled during the 2010–2011 academic year (Institute of International Education, 2011). They not only face many, but often unique challenges crossing global boundaries that constitute both tangible and intangible losses (Rakhsha, 2002). These tangible losses (e.g., in-person access to their homes, families, and friends) as well as intangible losses (e.g., self-efficacy, effortless sense of belongingness, and relevancy of knowledge to effectively navigate in their new cultural context) often lead to a wide array of acculturative stressors and psychological symptoms (see Berry, 1997; Zhang & Goodson, 2011). Nonetheless, this population has remained as one of the most invisible, understudied, and underserved populations on U.S. campuses (Zhang & Goodson, 2011).

Chinese international students from Mainland China and Taiwan comprise the largest international student group studying in

the United States. Chinese international students from Mainland China have more than doubled over the past 5 years, and those from Mainland China and Taiwan constitute one quarter of the total international students in the United States (Institute of International Education, 2011). Although there are sociopolitical and historical differences, Chinese international students from Mainland China and Taiwan share the same cultural heritage (e.g., Confucius values pertaining to modesty, relationships, and collectivism; Taoist values of harmony with reality; same spoken language, Mandarin). Thus, it is not surprising that these two groups have often been studied together (e.g., Lin & Betz, 2009; C. Wang & Mallickrodt, 2006; Wei, Liao, Heppner, Chao, & Ku, 2012). In this article, *Chinese international students* is used to refer to this cultural group of students. Compared with students from Europe, Chinese international students have experienced more difficulties in their cross-cultural adjustment process, evidenced by higher trait anxiety, more prejudice, more adaptation and communication problems, lower English language competence, and lower perceived social support (Chataway & Berry, 1989). In addition, Chinese international students have faced unique acculturative stress due to the differences in the educational system and social norms between Chinese and U.S. cultures (Wan, 2001), such as having more difficulty with fitting into the American style of social conversation and taking initiatives in asking questions and expressing their thoughts in the classroom (see also C. Wang & Mallickrodt, 2006).

The cross-cultural transition and acculturative adjustment process of international students has been the focus of a great deal of inquiry over the years (see Berry, 1997; Y.-W. Wang, Lin, Pang, & Shen, 2006). Numerous theories have been developed to explain

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students' cultural transitions and acculturative adjustment outcomes. All of the models focus on the basic process of adaptation to environmental stressors within a new cultural context (Berry, 1997). The earlier recuperative models emphasized recovery from the shock of entering a new cultural context (i.e., "culture shock"; Lysgaard, 1955; Oberg, 1960). The recuperative models have been criticized for being overly simplistic and did not account for individual differences in the adjustment outcomes (see, e.g., Anderson, 1994; Y.-W. Wang et al., 2006). Later models have focused on culture learning and social support (e.g., Furnham & Bochner, 1986), identity development and acculturation (e.g., Berry, 1997), as well as sociopsychological adjustment and coping processes (e.g., Anderson, 1994). Most importantly, the recent models highlight the challenges and complexities of the acculturative adjustment process for international students over time. Moreover, these models underscore international students' potential to actively adapt over time within the transitional process, which is often overlooked in cross-sectional studies of this population.

Acculturative Adjustment Over Time

Berry's (1997) model of acculturation highlighted both the process of acculturative adjustment to various stressors over time as well as the role of prearrival (e.g., personality variables such as maladaptive perfectionism) and postarrival factors (e.g., length of time in the new culture, perceived stressors, coping, and social support) that might affect the adjustment process. Research also suggests that some stressors (e.g., academics and unfamiliar climate) were found to decrease after the first semester, whereas other stressors (e.g., homesickness, cultural differences, and social isolation) did not decline until the second semester for Chinese international students from Taiwan (Ying, 2005). Likewise, cross-sectional studies have found that the length of time Chinese international students have been in the United States often has moderating effects on acculturative adjustment (e.g., Wei et al., 2007). For instance, Wei et al. found that having low maladaptive perfectionism was a buffer against the detrimental impact of acculturative stress on depression, but only for the international students who have been in the United States for a longer period of time. Similarly, Hechanova-Alampay, Beehr, Christiansen, and Van Horn (2002), using a longitudinal study, found that international students' stress peaked after 3 months of entry when exams took place; moreover, the association between international students' acculturative adjustment and their level of general self-efficacy was stronger during the early months in the United States, compared with 6 months later. Other studies have also found that postarrival variables have been linked to international students' acculturative adjustment, such as coping strategies (e.g., Schmitz, 1992) and social support (e.g., Furnham & Shiekh, 1993). In short, various stressors as well as individual differences seem to differentially impact international students' adjustment at different time points.

Unfortunately, there are only a few longitudinal studies like Hechanova-Alampay et al. (2002) that have examined international students' adjustment over time. For example, only 12 studies have used a longitudinal approach (see Zhang & Goodson, 2011); moreover, six of the 12 studies were from the same project conducted by Ying and her colleagues. In one study, Ying and Liese (1991) found that over half the Chinese international stu-

dents from Taiwan reported higher levels of depression after coming to the United States, whereas others reported either no change or an improvement in their mood; moreover, prearrival depression was identified as the strongest predictor of postarrival depression for these three groups. These longitudinal findings underscore the importance of considering prearrival individual differences, such as psychological distress level, coping skills, and personality variables. Although Ying and her colleagues provided important findings about Chinese international students' acculturative adjustment, their results are based on data collected more than two decades ago (1988–1990). In addition, only one other study on international students' acculturative adjustment (Cemalcilar & Falbo, 2008) had included a prearrival time point; similar to Hechanova-Alampay et al., a decline in psychological well-being was found after 3 months into their study. In short, there is a clear need for more longitudinal studies examining Berry's (1997) model, particularly those that explore various pre- and postarrival factors associated with the adjustment of international students (see also Sümer, Poyrazli, & Grahame, 2008; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008).

Heterogeneity Challenge

Another significant methodological challenge in studying international students is the heterogeneity among this diverse group across over 200 different countries, languages, cultures, and world-views (Institute of International Education, 2011). Moreover, there are also individual differences even among international students from a single country in terms of language proficiency, acculturation status, and familiarity with the U.S. culture (e.g., Pedersen, 1991). Most studies in this area have used aggregated samples of international students across countries with very different cultural contexts (see Zhang & Goodson, 2011, for a review). Thus, studying international students as a whole not only completely ignores external validity issues pertaining to the measurement of psychological constructs across cultural groups (see Ægisdóttir, Gerstein, Leung, Kwan, & Lonner, 2009) but also does not take into account the possible individual differences within similar cultural groups (Berry, 1997).

There is yet a single study that examines different trajectories of international students' acculturative adjustment over time that takes into account both the longitudinal aspect and heterogeneity challenge of studying this population. Tracking and examining acculturative adjustment indicators starting before students begin their study in the United States and exploring possible individual-difference variables associated with the different trajectories could provide much needed information about international students' transitional process. Although a wide array of individual differences have been examined relative to international students' cultural transition (see Anderson, 1994; Berry, 1997; Y.-W. Wang et al., 2006), Ward (1999) suggested that personality and coping variables seem to be most strongly predictive of the acculturative adjustment among international sojourners. Ward's conclusion is consistent with the prominent role of coping highlighted in both Berry's (1997) acculturative model as well as Anderson's (1994) model. More recently, Y.-W. Wang et al. (2006) concluded that in order to understand how international students actively adapt to a broad array of cultural stressors, it is necessary to "better understand the coping strategies and mechanisms used by Asian inter-

national students. . . as well as the impact of these coping processes on their cultural adjustment outcomes during their sojourns” (pp. 254–255).

Thus, the aim of this study is to examine different types of adjustment trajectories over time among Chinese international students. Moreover, this study expands the extant empirical literature with the focus on identifying within-group individual differences in the adjustment process to deconstruct the uniformity myth of international students at a level beyond cultures and countries. Following Ward’s (1999) and Y.-W. Wang et al.’s (2006) suggestions, this study explores the impact of individual differences (namely, psychological distress, personality, and coping variables) at various time points on one’s adjustment trajectories.

Focus of the Present Study

In this study, we followed Berry’s (1997) model to examine seven variables in predicting different acculturative adjustment patterns of international students. Moreover, these seven variables—acculturative stress, perfectionism, self-esteem, social support, English proficiency, problem-solving appraisal, and collectivistic coping—have been previously associated with international students’ psychological adjustment (see Zhang & Goodson, 2011). We will further elaborate on our rationale for selecting these specific predictor variables for this particular study.

Research has indicated that personality variables affect relations among stress, coping, and psychological adjustment in general (Bolger, 1990), and within international students in particular (e.g., Wei et al., 2007). Maladaptive perfectionism has been found to be predictive of both academic and psychosocial variables (e.g., Herman, Trotter, Reinke, & Ialongo, 2011). In addition, Chinese and Asian American student populations have reported higher levels of maladaptive perfectionism compared with other ethnic groups (e.g., Castro & Rice, 2003; Chang, 1998; K. T. Wang, 2010). While facing cultural challenges in the United States, perfectionism could have a more significant effect on Asian international students who frequently have been said to be high achievers in their home countries. In other words, studying in a different language, educational system, and cultural context could pose extra challenges for students to achieve at the level they were accustomed to, which can potentially heighten the negative impact of maladaptive perfectionism, in particular perfectionistic discrepancy (i.e., a tendency to focus on the gap between their performance and standards). For example, two studies found maladaptive perfectionism as a predictor of stress for Asian international students (Nilsson, Butler, Shouse, & Joshi, 2008; Wei et al., 2007). In fact, Nilsson and her colleagues found that perfectionism and acculturation level predicted over 50% of the variance in the stress Asian international students experienced. Similarly, self-esteem is an individual factor that has been found to be related to acculturative adjustment during the cross-cultural transition to the United States (e.g., Barratt & Huba, 1994; Bektaş, Demir, & Bowden, 2009). Moreover, self-esteem, along with coping, have also served as moderators between the relationship of perceived discrimination and depression for Asian international students (Wei et al., 2008).

Acculturative stress and social support have also been factors relevant to the adjustment process of international students. Acculturative stress has been a commonly studied variable found to predict psychological symptoms and related to the length of stay

for Chinese (Wei et al., 2007; Ying & Han, 2006) and other international students (Wilton & Constantine, 2003). Social support has been found to be negatively associated with psychological distress for Chinese (Ye, 2006) and other international students (Sümer et al., 2008). Moreover, a few studies specifically found that having more social contact with Americans predicted lower levels of psychological distress (Hechanova-Alampay et al., 2002; Upvall, 1990).

Berry’s (1997) acculturative model identified the coping process as a central feature in his model, and in doing so drew heavily on Lazarus and Folkman’s (1984) coping model. However, the coping literature has advanced significantly during the last 25 years; consequently, we drew on a more recent contextual and cultural model of coping (CCMC; Heppner, Wei, Neville, & Kanagui-Munoz, in press) to identify two relevant coping variables for Chinese students. The CCMC not only emphasizes the cultural relevance of coping constructs for specific populations but also acknowledges both dispositional as well as situation-specific coping. Thus, in this study, we used both dispositional and situation-specific coping inventories that have appropriate cultural validity for Chinese students. More specifically, researchers have found that both general dispositional coping styles (e.g., problem-solving appraisal) as well as situation-specific coping strategies (e.g., forbearance) predict acculturative adjustment in international students. For example, Wei et al. (2008) found that different dispositional coping styles (i.e., reflective, suppressive, and reactive) have varying moderating effects on the relationship between perceived discrimination and depression among Asian international students. Other studies have indicated that particular culturally appropriate coping strategies, such as forbearance, have been found to promote more independence and self-sufficiency within Asian female international students (Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005). In this study, we used both a dispositional problem-solving style (e.g., problem-solving appraisal), which has been predictive of lower distress among Taiwanese students (Heppner et al., 2006), as well as a situation-specific coping inventory, which has been based on Asian values and also predictive of psychological distress in Taiwanese college students (i.e., collectivistic coping styles [CCS]; Heppner et al., 2006).

Finally, to bridge the gap in the international students acculturative adjustment literature, more longitudinal studies that take into account the heterogeneity of this population are needed. Methodologically, we used a person-centered approach (i.e., focusing on relationships among individuals such as classifying individuals into distinct groups) in the present study to identify profile types of acculturative adjustment patterns, as opposed to a variable-centered approach (e.g., regression, correlations). Specifically, we used psychological distress as the indicator for acculturative adjustment of Chinese international students, which was measured at four time points: (a) before beginning their studies in the United States, and subsequently during their (b) first semester, (c) second semester, and (d) third semester in the United States. We examined how acculturative stress, perfectionism, self-esteem, social support, English proficiency, problem-solving appraisal, and collectivistic coping at different time points predicted psychological distress over time. More specifically, in this study we (a) determined the number and types of acculturative adjustment patterns by examining trajectories of psychological distress during the

initial transition period of studying in the United States as well as (b) examined which variables prior to and during their studies in the United States distinguished the various trajectories.

Method

Participants

A total of 544 Chinese students completed the Time 1 survey providing valid responses (passing both validity check items). However, 37 participants were excluded who either (a) indicated having U.S. citizenship ($n = 11$), (b) had not received admission to study in the United States at Time 1 and also did not participate at any further time points ($n = 15$), or (c) had scores that were significant univariate or multivariate outliers ($n = 11$). The final sample included 507 participants (Time 1: $N = 507$, Time 2: $n = 227$; Time 3: $n = 178$, Time 4: $n = 115$). There were 217 women and 290 men. The majority of participants were pursuing a graduate degree (80%) and studying in a variety of fields, with Engineering (21%), Business (20%), Medicine (14%), and Science (11%) among the most studied areas. Participants were studying at various states across the United States, with Missouri (16%), New York (12%), California (11%), and Pennsylvania (9%) being where most participants were located. Only 7% of the participants were married. The majority (79%) had no prior experiences studying in the United States, and 52% had never been in the United States. At prearrival time point, 86% of the participants were still in their home country. The term *prearrival* was used to be consistent with previous studies; in this study, it refers to prior to starting their study in the United States as opposed to arriving in the United States. Fifty-five percent of participants indicated being from Mainland China and 45% from Taiwan.

Instruments

The Almost Perfect Scale-Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996). The APS-R is a 23-item self-report measure designed to assess levels of perfectionism through three subscales: High Standards, Order, and Discrepancy. The High Standards and Discrepancy subscales are the most essential characteristics of perfectionism. High Standards measures one's possession of high standards for achievement and performance. The Discrepancy subscale captures the negative aspects of perfectionism that refers to "the perception that one consistently fails to meet the standards that one has set for oneself" (Slaney, Rice, & Ashby, 2002, p. 69). Each item is measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The Chinese version of the APS-R used in this study was carefully translated through a three-step back-translation process (see K. T. Wang, 2011). Cronbach's coefficients alpha ranged from .76 to .84 for High Standards scores and from .85 to .88 for Discrepancy scores for Chinese and Taiwanese student samples using the Chinese APS-R (K. T. Wang, Slaney, & Rice, 2007; K. T. Wang, Yuen, & Slaney, 2009; Yang, Liang, Zhang, & Wu, 2007). Exploratory and confirmatory factor analyses have supported the three-factor structure of the Chinese APS-R (K. T. Wang et al., 2007; Yang et al., 2007).

The CCS (Heppner et al., 2006). The CCS is a 30-item situation-specific measure assessing coping styles in Asian collec-

tivistic culture. Participants were asked to rate the helpfulness of each coping activity specifically in response to how they were coping with the cross-cultural transition in the United States on a Likert-type scale, where 0 = (*never used this strategy/not applicable*), 1 = (*used but of no help at all*), and 5 = (*a tremendous amount of help*). The CCS consists of five factors: Acceptance, Reframing, and Striving (ARS; 11 items); Family Support (FS; six items); Religion-Spirituality (RS; four items); Avoidance and Detachment (AD; five items); and Private Emotional Outlets (PEO; four items). The CCS was originally developed in Chinese, and coefficient alphas for each subscale scores are ARS .85; FS .86; RS .90; AD .77; and PEO .76 among a sample of Taiwanese students (Heppner et al., 2006). For this study, the average rating for the helpfulness of each of the five coping factors was calculated.

Chinese Problem-Solving Inventory (CPSI; Tian, Heppner, Hou, & He, 2008). The CPSI is an 18-item measure modified from the Problem-Solving Inventory (Heppner, 1988) in a sample of 736 Chinese students. The PSI items were translated into Chinese through a rigorous three-step back-translation process, and used as the initial item pool. Exploratory and confirmatory factor analyses supported the CPSI's factor structure across three Chinese samples (Tian et al., 2008). The CPSI assesses perceptions of one's problem-solving ability as well as behaviors and attitudes associated with problem-solving style. Each item is rated on a 6-point Likert scale ranging from 1 (*strongly agree*) to 6 (*strongly disagree*). The CPSI consists of three factors: (a) Problem-Solving Confidence (six items), (b) Reflective Thinking (six items), and (c) Emotional Control (six items); the CPSI total score is the sum of these three subscales. Lower scores indicate more positive appraisal of one's problem-solving ability. The internal consistencies ranged from .67 to .78 for the three subscales and was .77 for the total scores (Tian et al., 2008). The CPSI's validity was also supported by positive correlations with career decision difficulties, external career locus of control, and psychological symptoms as well as negative correlations with internal career locus of control (Tian et al., 2008). The total CPSI score was used in this study.

Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994). The ASSIS is a 36-item measure assessing acculturative stress of international students and consists of seven subscales: Perceived Discrimination (eight items), Homesickness (four items), Perceived Hate (five items), Fear (four items), Stress Due to Change/Culture Shock (three items), Guilt (two items), and Nonspecific Concerns (10 items). Each item is rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The composite score was used in this study with higher scores representing greater acculturative stress. Coefficient alphas for the total scores have ranged from .92 to .94 (Wei et al., 2007, 2012) for Chinese international students. The Chinese version of the ASSIS used in this study was translated on the basis of Brislin's (1980) three-step back-translation guidelines (see Wei et al., 2007). Its construct validity has been supported by positive relationships with depression and a negative relationship with adjustment among international students (Wei et al., 2007, 2012).

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). The RSES consists of 10 Likert-type scale items designed to assess positive evaluations of the self. Respondents rate from 1 (*strongly disagree*) to 4 (*strongly agree*), with higher scores representing

higher self-esteem. The RSES has been translated into at least 28 languages and widely used among international populations. A study administered to participants across 53 nations found the factor structure largely invariant across nations (Schmitt & Allik, 2005). The Chinese version was obtained from Yang's (1997) translation of the RSES and verified through back-translation from our research team. Cronbach's coefficients alpha were .82 for Taiwanese college students (K. T. Wang et al., 2007) and .78 for Asian international students (Wei et al., 2008). RSES's construct validity has been supported by its negative association with depression and stress among Asian international students (Wei et al., 2008).

The Brief Symptom Inventory-18 (BSI-18; Derogatis, 2000).

The BSI-18 is a self-reported measure of psychological distress. The items are rated on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*always*). The BSI-18 consists of three subscales with six items in each: Depression, Anxiety, and Somatization. The composite score was used in this study with higher scores representing greater levels of psychological distress. The Chinese version of the BSI was translated through a three-step back-translation process. The validity of the BSI-18 has been demonstrated through strong correlations between the BSI total score and other measures of psychological distress and adjustment difficulties with Chinese international students (C. Wang & Mallinckrodt, 2006). The coefficient alpha of the BSI-18 scores in a sample of Chinese international students was .88 (C. Wang & Mallinckrodt, 2006). For this study, one original item "Thoughts of ending your life" was modified to "Pessimistic thoughts of life" due to concerns of participant perceptions and Institutional Review Board complications. Participants were asked to respond in terms of "how they have been feeling during the past 7 days."

Demographic questionnaire. A demographic questionnaire included questions about participants' gender, nationality, Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS), length of time in the United States, past experience of living or studying in the United States, and source of social support when studying in the United States.

Procedure

Participants were recruited through invitation e-mails sent through various channels (e.g., Taiwanese and Chinese student associations, international student services offices, study abroad agencies, and word of mouth). They were told that this was a study about the adjustment process of international students and that they needed to be at least 18 years old and a new/incoming international student to participate. Participants completed the survey online, which was presented in Chinese (Simplified for students from Mainland China and Traditional for those from Taiwan); see Table 1 for variables at each time point. Data were collected at four periods. Time 1 data were collected during late June to early August of 2010, just before students started their studies in the United States; Time 2 about 1 month into their first semester (September 2010); Time 3 at the beginning of the second semester (February 2011); and Time 4 about 1 month into their third semester (September 2011). Incentives provided to participants included (a) a brief study abroad guide after completing each of the four surveys, (b) two digital newsletters about adjustment tips provided between the first three time points, and (c) a chance to

Table 1
Mean and Standard Deviation of Study Variables

Variable	<i>M</i>	<i>SD</i>	α
Psychological symptoms-T1	29.73	11.03	.93
Psychological symptoms-T2	33.85	13.74	.95
Psychological symptoms-T3	32.00	12.61	.95
Psychological symptoms-T4	33.85	12.38	.94
Discrepancy-T1	46.12	12.73	.91
High Standards-T1	37.30	5.44	.76
Problem solving-T1	49.80	9.64	.86
Self-esteem-T1	31.30	4.87	.88
TOEFL-T1	94.65	10.66	
Acculturative stress-T2	84.85	22.73	.96
Support-Chinese-T2	69.03	22.18	
Support-Int'l-T2	14.04	12.95	
Support-Am.-T2	16.93	16.23	
Coping h-ARS-T2	3.13	0.81	.88
Coping h-FS-T2	2.71	0.88	.85
Coping h-RS-T2	2.55	1.12	.95
Coping h-AD-T2	1.98	0.68	.68
Coping h-PEO-T2	2.27	0.86	.48
Acculturative stress-T3	88.22	20.63	.95
Support-Chinese-T3	66.44	22.38	
Support-Int'l-T3	16.41	14.80	
Support-Am.-T3	17.15	17.02	
Coping h-ARS-T3	3.14	0.83	.89
Coping h-FS-T3	2.70	0.81	.88
Coping h-RS-T3	2.66	1.09	.96
Coping h-AD-T3	2.07	0.79	.65
Coping h-PEO-T3	2.35	0.91	.46
Support-Chinese-T4	64.83	22.99	
Support-Int'l-T4	17.16	14.38	
Support-Am.-T4	18.02	17.92	

Note. T1-T4 = Time 1-Time 4; TOEFL = Test of English as a Foreign Language; Int'l = International; Am. = American; ARS = Acceptance, Reframing, and Striving; FS = Family Support; RS = Religion-Spirituality; AD = Avoidance and Detachment; PEO = Private Emotional Outlets.

win a monetary gift in a drawing at Time 2 (ten \$50 gifts) and Time 3 (ten \$50 gifts and sixty \$25 gifts). The survey also included two validity check items at each time point (e.g., *Please simply select [Neutral] for this item*). Participants who gave any incorrect responses on either of the two validity check items were deleted due to invalid responses.

Results

Preliminary Analyses

Random missing values at the item level were replaced through the expectation-maximization method before summing subscale scores. We conducted preliminary analyses to assess attrition effects, sex differences, and place of origin differences on the BSI scores, which were used as the indicator variable for growth mixture modeling (i.e., the variable to determine membership of different latent growth trajectories). To assess for whether BSI data were missing completely at random (MCAR), we conducted *t* tests on BSI scores between (a) those who only completed the Time 1 survey and those who completed at least two time points, and (b) those who completed all four time points with those who only completed two or three time points. All *t* tests revealed no signif-

icant differences (F s ranged from -1.56 to 1.16 , $ps > .12$); thus, MCAR was assumed (Enders, 2010). Subsequently, we used full information maximum likelihood estimation to address missing data under the assumption of MCAR (Schlomer, Bauman, & Card, 2010) for the growth mixture modeling (GMM) analyzed with the Mplus 6.12 program (Muthén & Muthén, 2009). The covariance coverage ranged from .19 to .45, which was within the .10 minimum coverage recommended for reliable model convergence (Muthén & Muthén, 2009). We also compared the BSI scores across sex; female students reported significantly higher BSI scores at Times 1 and 2. In terms of place of origin, participants from Taiwan reported significantly higher BSI scores across Times 1, 2, and 3. Thus, we conducted GMM with three covariates: (a) place of origin, (b) sex, and (c) whether participants read the information guides.

Determination and Description of Latent Growth Classes

The main purpose of this study was to examine (a) different psychological distress trajectories over the first 3 semesters of studying in the United States among Chinese international students and (b) variables that would differentiate these different groups of psychological distress trajectories. GMM estimates longitudinal growth trajectories and identifies distinct profiles of trajectories within a sample (Muthén & Muthén, 2009). To explore the heterogeneity of acculturative adjustment patterns over time, we conducted GMM using Mplus to identify distinct trajectories of psychological distress changes across the four time points. GMM assigns class (profile group) membership of growth trajectories on the basis of probabilities, which takes uncertainty of membership, or error, into account. We estimated both linear and quadratic growth factors in this model because the descriptive data across time points suggest an overall increase in psychological distress challenges at Time 2 and then a decrease at Time 3 (i.e., an inverted U-shaped trajectory in change of psychological distress for the whole group). Within-class variability of the quadratic and slope terms were constrained to zero. The first step was to determine the best fitting GMM model by examining the Bayesian information criterion (BIC; Schwarz, 1978), the sample size-adjusted Bayesian information criterion (aBIC; Sclove, 1987), and the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR aLRT; Lo, Mendell, & Rubin, 2001), which compares nested models that differ by one class. For all these indices, smaller values indicate a

better model fit. We also examined entropy values, in which closer to 1.0 indicates better classification precision (see Table 2). Parsimony, class prevalence, and interpretability (percentage of participants and unique information provided by an additional class) were also important factors to consider in deciding the number of classes (Jung & Wickrama, 2008).

We selected and used a four-class solution for interpretation and subsequent analyses because it had the lowest BIC value (9799.23), and through a parametric bootstrap LRT, we also confirmed that the four-class model provided a statistical significant better fit than the three-class model. Moreover, each of the four classes in this solution had adequate percentages of participants and was readily interpretable. The four trajectories included the following classes of international students: (a) a group exhibiting high levels of psychological distress across each time point (consistently distressed; 10%), (b) a group with decreasing psychological distress scores from Time 1 to Time 2 (relieved; 14%), (c), those with a sharp peak in psychological distress at Time 2 and Time 3 (culture-shocked; 11%), and (d) a group with relatively consistent low psychological distress scores (well-adjusted; 65%). The estimated BSI means of each group from the GMM analyses across the four time points are presented in Figure 1. Participants were assigned group memberships on the basis of their highest corresponding probability among the four classes. Chi-square tests indicated that the four trajectory groups distributed differently across sex, $\chi^2(3, N = 507) = 10.20, p = .02$, and place of origin, $\chi^2(3, N = 507) = 10.89, p = .01$. Overall, men and students from Mainland China were more likely to be in the well-adjusted group compared with women and students from Taiwan, respectively.

Predictors of Group Membership

We conducted multinomial logistic regressions to determine whether certain individual characteristics at various time points of the study distinguished the groups. Prearrival individual characteristics (perfectionism, problem-solving appraisal, self-esteem, and TOEFL/IELTS score), Time 2 variables (i.e., perceived acculturative stress, social support, and coping strategies), Time 3 variables (i.e., perceived acculturative stress, social support, and coping strategies), and a Time 4 variable (i.e., social support) were included in the analyses (see Table 3).

Well-adjusted. The well-adjusted group included more than half the sample (65%). Students in this group were characterized as having the lowest perfectionistic discrepancy ($M =$

Table 2
Fit Indices of Growth Mixture Modeling for Two- to Five-Class Solutions Across Four Time Points

Model	LL	BIC	aBIC	aLRT p	Entropy
Two-class model	-4846.27	9804.64	9747.51	.000	.91
Three-class model	-4824.78	9805.27	9725.92	.310	.81
Four-class model	-4799.96	9799.23	9697.66	.469	.80
Five-class model	-4786.19	9815.30	9691.51	.262	.82

Note. LL = log likelihood; BIC = Bayesian information criterion; aBIC = adjusted Bayesian information criterion; aLRT p = adjusted Lo-Mendell-Rubin likelihood ratio test p value. Smaller values indicate better fit of the model. Entropy values close to 1.0 indicate higher classification precision. All entropy ratings indicate acceptable fit.

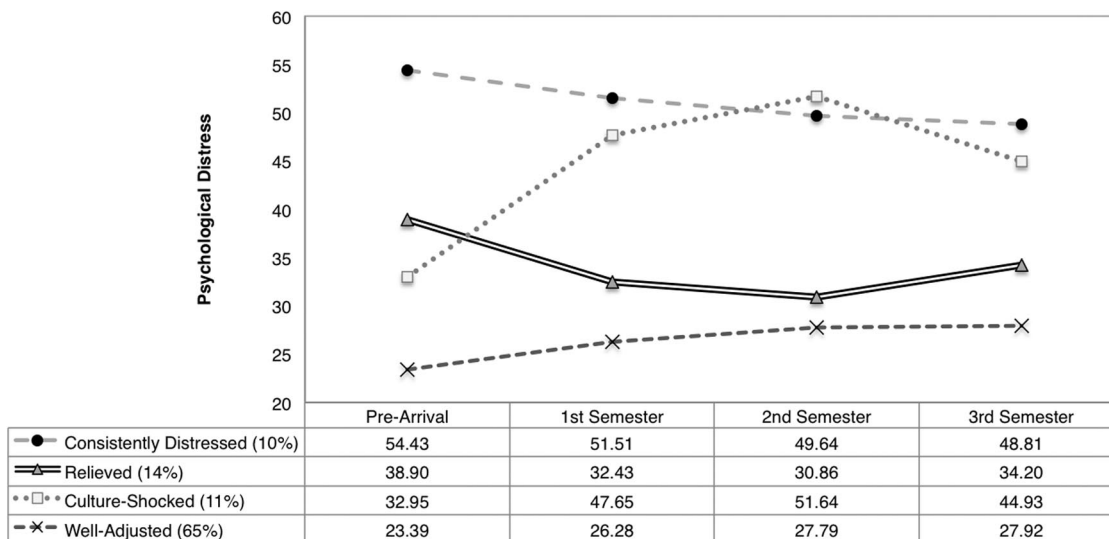


Figure 1. Characteristics of the four classes of psychological distress trajectories.

44.06) and most positive problem-solving appraisal ($M = 47.89$), and highest self-esteem ($M = 32.30$) at the prearrival time point. At Time 2, they also reported having the lowest level of perceived acculturative stress ($M = 79.86$) and lowest percentage of social support from Chinese students ($M = 65.6\%$). They also reported the highest perceived helpfulness ($M = 3.27$) in using ARS as coping strategies during the cross-cultural transition to the United States.

Culture-shocked. The culture-shocked group was characterized as having high levels of psychological distress during the first two semesters, which decreased at the third semester. At Time 2, the culture-shocked group ($M = 98.07$) reported significantly higher scores on perceived acculturative stress (Wald's = 11.87, $p < .01$) than the well-adjusted ($M = 79.86$) group and a higher percentage of social support from Chinese students (77.8%) at Time 2 than the well-adjusted (65.6%) group (Wald's = 5.12, $p < .05$). The culture-shocked group also reported the lowest helpfulness scores of FS coping ($M = 2.35$), which was significantly lower than the well-adjusted ($M = 2.81$) group (Wald's = 4.72, $p < .05$). An interesting note about the source of social support for the culture-shocked group is that the percentage of social support from Chinese students decreased from 77% to 52% between Time 2 and Time 4. In other words, they had a more balance array of social support at Time 4.

Consistently distressed. The consistently distressed group was characterized by endorsing consistently high levels of psychological distress across all time points, which indicated that their mental health problems might be less related to the cross-cultural transition to the United States, but were rather preexisting and perhaps long-standing. The consistently distressed group reported significantly higher levels of perfectionistic discrepancy ($M = 55.07$) scores as well as significantly more negative problem-solving appraisal ($M = 56.86$) and self-esteem ($M = 27.16$) compared with all other groups. At Time 2, the consistently distressed group reported the highest perceived acculturative stress scores ($M = 100.57$) that were significantly higher than the well-adjusted ($M = 79.86$) and relieved ($M = 87.50$) groups (Wald's =

16.31, $p < .001$; Wald's = 5.05, $p < .05$, respectively). The consistently distressed group reported a significantly higher percentage of social support from Chinese students ($M = 78.0\%$) and a lower percentage of social support from other international students ($M = 9.2\%$) compared with the well-adjusted group (Wald's = 6.02, $p < .05$; Wald's = 4.72, $p < .05$, respectively). In addition, the consistently distressed group ($M = 2.66$) also reported significantly lower helpfulness scores on the ARS coping strategies than the well-adjusted ($M = 3.27$) group (Wald's = 11.09, $p < .01$). At Time 3, the consistently distressed group reported the highest perceived acculturative stress score ($M = 103.95$) that was significantly higher than all other groups. In addition, the consistently distressed group ($M = 2.52$) also reported significantly lower helpfulness scores on the ARS coping strategies at Time 3 than the well-adjusted ($M = 3.24$) and relieved ($M = 3.25$) groups (Wald's = 11.60, $p < .01$; Wald's = 8.39, $p < .01$, respectively).

Relieved. The relieved group was characterized as having experienced a sharp decrease of psychological distress after they arrived to study in the United States, which indicates that the change of location might have relieved their preexisting psychological stress. At Time 1, the relieved group reported significantly more negative problem-solving appraisal ($M = 52.59$) compared with the well-adjusted ($M = 47.89$) group (Wald's = 14.38, $p < .001$). They also had significantly higher perfectionistic discrepancy mean scores ($M = 48.88$) at the prearrival time point than the well-adjusted ($M = 44.06$) group (Wald's = 8.76, $p < .01$). At Time 2, the relieved group ($M = 87.50$) reported significantly lower scores on acculturative stress than the consistently distressed ($M = 100.57$) group (Wald's = 5.05, $p < .05$). The relieved ($M = 2.94$) group also reported lower helpfulness scores for the ARS coping strategies at Time 2 than the well-adjusted ($M = 3.27$) group (Wald's = 4.45, $p < .05$). At Time 3, the relieved group ($M = 88.57$) reported significantly lower scores on acculturative stress than the consistently distressed ($M = 103.95$) group (Wald's = 6.63, $p < .05$).

Table 3
Mean Scores Study Variables by Class From Time 1 to Time 4

Variable	Consistently distressed (CD; 10%)		Relieved (R; 14%)		Culture-shocked (CS; 11%)		Well-adjusted (WA; 65%)		Significant class comparisons
	M	SD	M	SD	M	SD	M	SD	
Time 1									
Discrepancy	55.07	11.08	48.88	11.81	47.01	12.95	44.06	12.45	WA < CD***, R**, R, CS < CD**
High Standards	37.43	4.75	37.27	5.22	36.28	5.86	37.41	5.54	ns
Problem solving	56.86	9.56	52.59	9.19	52.22	6.83	47.89	9.38	WA < CD***, R***, CS**, R*, CS* < CD
Self-esteem	27.16	4.00	30.18	5.17	30.16	3.92	32.30	4.63	CD***, R**, CS** < WA; CD < R***, CS**
TOEFL/IELTS	94.06	10.34	94.62	10.35	93.93	10.22	94.84	10.87	ns
Time 2									
Acculturative stress	100.57	23.17	87.50	19.06	98.07	15.35	79.86	22.44	WA < CD***, CS**; R < CD*
Support-Chinese	78.08	18.29	72.27	17.05	77.81	17.78	65.62	23.57	WA < CD*, CS*
Support-Int'l	9.17	8.40	12.21	11.63	11.19	12.94	15.64	13.60	CD < WA*
Support-Am.	12.75	13.38	15.52	14.87	11.00	12.60	18.74	17.13	ns
ARS coping	2.66	0.60	2.94	0.82	2.95	0.67	3.27	0.81	CD**, R* < WA
FS coping	2.43	0.81	2.76	0.82	2.35	0.83	2.81	0.90	CS < WA*
RS coping	2.37	0.91	2.21	0.90	2.57	1.19	2.69	1.21	ns
AD coping	1.88	0.43	1.90	0.61	1.97	0.61	2.02	0.74	ns
PEO coping	2.39	0.83	2.32	0.82	2.13	0.67	2.26	0.90	ns
Time 3									
Acculturative stress	103.95	17.22	88.57	21.36	98.76	20.51	83.98	19.38	WA***, R*, CS** < CD
Support-Chinese	68.05	22.39	68.36	20.21	65.81	22.20	65.85	23.07	ns
Support-Int'l	16.45	15.14	17.24	17.48	16.63	12.32	16.20	14.62	ns
Support-Am.	15.50	17.52	14.40	11.09	17.56	14.19	17.96	18.38	ns
ARS coping	2.52	0.72	3.25	0.72	3.04	0.67	3.24	0.85	CD** < WA, R
FS coping	2.46	0.88	2.97	0.72	2.49	0.85	2.71	0.79	ns
RS coping	2.39	0.81	2.54	0.86	2.75	1.28	2.75	1.19	ns
AD coping	1.83	0.69	2.28	0.86	2.21	0.88	2.05	0.78	ns
PEO coping	2.15	0.81	2.62	0.99	2.40	0.95	2.31	0.90	ns
Time 4									
Support-Chinese	72.46	20.80	65.00	19.07	51.64	28.64	65.39	22.78	ns
Support-Int'l	12.08	8.20	13.79	12.69	26.64	17.38	17.27	14.58	ns
Support-Am.	15.46	16.43	21.21	21.12	21.73	18.72	17.34	17.64	ns

Note. TOEFL/IELTS = Test of English as a Foreign Language/International English Language Testing System; Support-Chinese = % of social support from Chinese students; Support-Int'l = % of social support from international students from other countries; Support-Am. = % of social support from American students; ARS = Acceptance, Reframing, and Striving; FS = Family Support; RS = Religion-Spirituality; AD = Avoidance and Detachment; PEO = Private Emotional Outlets. Boldface font indicates that the score is significantly higher than one or more groups.
* $p < .05$. ** $p < .01$. *** $p < .001$.

In terms of perfectionistic High Standards, TOEFL/IELTS, coping related to RS, AD, PEO, and social support from U.S. students, there were no significant group differences on these scores.

Discussion

In this study, we used a person-centered approach to profile types of international student psychological distress trajectories before and during the initial transition. Through GMM, we identified four distinct groups of psychological distress trajectories among Chinese international students from the prearrival time point to the third semester of their studies in the United States. These four groups highlight the fact that their acculturative adjustment is not uniform, but rather differs widely across individuals. On the basis of our knowledge, this is the first study in which different adjustment trajectories of international students have been examined during their initial cultural transition period. These findings significantly expand the literature on international students' acculturative adjustment process, and in essence confirm a much more complex model of cross-cultural transitions than the

stereotypical culture shock model, peaking shortly after starting their studies (Hechanova-Alampay et al., 2002) and decreasing after following semesters (Ying, 2005).

The results also suggest that the majority of the Chinese international students did not experience severe levels of psychological distress during their initial cultural transition to the United States. In fact, 65% of the international students in this study reported minimal fluctuation in the psychological distress that they experienced immediately before and after their cross-cultural transition to the United States. These results underscore Berry's (1997) assertion of the importance of studying existing factors prior to acculturation; in fact, Berry warned that "any study that ignores any of these broad classes of variables (in this case, pre-existing psychological distress) will be incomplete, and will be unable to comprehend individuals who are experiencing acculturation" (pp. 15-16). Moreover, our findings also suggest that previous studies (using variable-centered approaches with aggregated data) may have obfuscated the possibility that the majority of international students may not actually experience a major spike in psycholog-

ical distress during their initial cultural transition. This finding challenges existing assumptions of an overly negative or pathological focus on international student distress. Most of the studies on international student adjustment have focused on psychological distress, such as depression (e.g., Dao, Lee, & Chang, 2007; Jung, Hecht, & Wadsworth, 2007; Sümer et al., 2008) and anxiety (e.g., Fritz, Chin, & DeMarinis, 2008; Situ, Austin, & Liu, 1995; Sümer et al., 2008) that international students experience due to the cross-cultural transition. However, results of this study indicate that less than a quarter of the international students experience high levels of psychological distress during their time studying in the United States.

Our results also provide a great deal of information about different acculturative adjustment trajectories among four groups of Chinese international students. More specifically, variables that predicted positive acculturative adjustment were identified by comparing the well-adjusted group's profile of scores with the other groups. Two individual characteristics and one coping variable prior to the acculturation process distinguished the well-adjusted group over time. Specifically, having higher self-esteem, more positive problem-solving appraisal, and lower maladaptive perfectionism at prearrival were factors associated with better acculturative adjustment, which extends cross-sectional findings with postarrival data from past studies on international students (e.g., Barratt & Huba, 1994; Bektaş et al., 2009; Nilsson et al., 2008; Wei et al., 2007). These findings also underscore the importance of prearrival personality and dispositional coping variables in predicting acculturative stress of Chinese international students, and as such extends Berry's (1997) theory. It is also worth noting that for Chinese students from a collectivistic culture, other aspects of self-esteem, such as collective self-esteem (Crocker & Luhtanen, 1990) and relational self-esteem (e.g., family relationship and interaction, interpersonal relationships and popularity; Weng, Yang, & Xu, 2008) may be worth examining in future studies.

During the first semester of studying in the United States, the well-adjusted group was also distinguished by having a relatively balanced array of social support (less percentage of social support from Chinese students). This finding is congruent with Swagler and Ellis's (2003) finding that a social network including both Americans and those from one's own country predicted better acculturative adjustment. The well-adjusted group also reported the highest helpfulness rating of the ARS strategy in coping with the cross-cultural transition. This collectivistic coping strategy that tends to emphasize acceptance of unpredictable life circumstances, positively reframing stressors, and also actively striving to cope could be particularly effective for international students in dealing with cross-cultural transitions where many new and unpredictable challenges are encountered (Moore & Constantine, 2005). Most importantly, these findings regarding social support and situation-specific coping underscore that it is not only simply prearrival factors that predict psychological adjustment of international students, but also post-arrival choices students make in coping with acculturative stress and social support during their time in the United States. In sum, these are positive factors to pay attention to when helping international students adjust during cross-cultural transitions.

The relieved group is most contradictory to the stereotypical view of the international students' acculturative adjustment pro-

cess. Their level of psychological distress was quite high before studying in the United States, but significantly decreased shortly into the first semester. Their trajectory indicates a relief of psychological distress after starting their studies in the United States. One possible explanation could be that they were dealing with undesirable stress back in their home country, and being removed from that environment relieved them of the psychological distress. It could also be that these students may have experienced excessive worries around crossing cultures and going to a totally new environment, but later learned that they may have overestimated the challenges. Additional research is needed to further examine the psychological dynamics between perfectionism and dispositional coping within this group of international students.

The consistently distressed group had consistently high levels of psychological distress across all four time points. It appears that their psychological distress was preexisting and less likely related to the cross-cultural transition. Their higher perfectionistic discrepancy, lower self-esteem, and negative problem-solving appraisal at Time 1 may have also predisposed them to more challenges; in support of this explanation, this group reported the highest levels of acculturative stress at Times 2 and 3. They also reported less helpfulness in using ARS coping compared with the well-adjusted group.

The culture-shocked group had increasing psychological distress during the first year of their studies. It was not until the third semester that their level of psychological distress started to decrease. The culture-shocked group reported higher levels of acculturative stress than the well-adjusted group during the first semester. Their percentage of social support coming from Chinese students was also higher than the well-adjusted group during the first semester. Interestingly, at the third semester, the culture-shocked group reported having the most balanced array of social support, where almost half were from American students and other international students. In terms of coping, this group reported less helpfulness in using family support coping compared with the well-adjusted group during the first semester.

In terms of future research, our results suggest that more complex models of acculturative adjustment are needed. More specifically, our results broaden the existing conceptualization on the role of coping and suggest that more complex coping models are needed to more fully understand the complexities within cross-cultural sojourners (see also Anderson, 1994; Heppner et al., in press). Our results suggest it may be useful to examine very different types of coping variables, such as (a) prearrival dispositional coping such as problem-solving appraisal (i.e., a general positive belief about one's problem-solving ability based on innumerable daily experiences, and which tends to be quite stable over time) and (b) postarrival situation-specific coping (i.e., collectivistic coping strategies for responding to specific stressors, in this case, daily life acculturative stressors). For example, in our study, the well-adjusted students reported not only the most positive prearrival problem-solving appraisal but also the highest level of coping effectiveness on the ARS factor of the CCS. In other words, the well-adjusted group not only had a stronger belief in their coping ability before studying in the United States but also used a blend of effective coping activities to resolve their acculturative stress during their time in the United States. Such coping activities may be a good combination for effectively responding to acculturative stress. In contrast, the consistently distressed group re-

ported the most negative problem-solving appraisal at prearrival, and the least helpfulness from ARS coping strategies in dealing with acculturative stress once they were in the United States. Obviously, these are two very different combinations of coping resources associated with differing levels of acculturative adjustment. Moreover, our results suggest that several individual characteristics, most notably maladaptive perfectionism and self-esteem, are also associated with the psychological adjustment of Chinese international students over time. In addition, the combination of these characteristics as well as the types of social support may result in advantageous or quite unfortunate scenarios. Future researchers might well examine the combination of both prearrival personality and dispositional coping variables as well as postarrival situation-specific coping and social support variables that optimally impact cultural adjustment outcomes across different subgroups of international students.

Practical Implications

Findings from this study provide several practical implications. The culture-shocked and consistently distressed groups warrant the most attention by practitioners. International students with a culture shock trajectory experienced increased psychological distress after studying in the United States, which is different from those who were consistently distressed. In counseling, it may be useful to conduct a retrospective baseline assessment of the clients' level of self-esteem, psychological distress, and perfectionistic discrepancy back in their home country, which may provide helpful projection of their acculturative adjustment pattern. Also, it would be important to assess both the client's prearrival coping disposition as well as the postarrival perceived helpfulness of their situation-specific coping strategies.

In addition to counseling implications, our findings may also be applicable for study abroad agencies in students' home countries, U.S. university international student services, as well as university faculty and advisors. For example, study abroad agencies might incorporate assessment of psychological distress as part of their services and help students assess their readiness for a major cross-cultural transition. For university international student services, it might be helpful to present information on the different psychological distress patterns during the orientation of new international students. Throughout the following semesters, outreach programs may be tailored toward the needs of different individuals/groups. Results from this study can also be used in training workshops for faculty and staff who are working with international students. For example, by being able to anticipate the different patterns of international students' acculturative adjustment, faculty and staff might choose to use their advisory roles to provide significant amounts of social support during the transition process (Rice et al., 2009) as well as make referrals for those having the most severe psychological problems.

Limitations and Future Directions

Although the results of this study provide a great deal of new findings related to different types of new international students' acculturative adjustment patterns, a few limitations must be noted along with future research directions. First, we used various methods including a snowball sampling approach to recruit interna-

tional students prior to beginning their cultural transitions to the United States. Therefore, the sample was more diversified (e.g., from various campus locations and sizes, urban/rural surroundings), and we have less information on whether there was a selection bias based on who decided to participate or not. The proportion of students from Mainland China and Taiwan did not reflect the overall representation of Chinese international students, with those from Taiwan overrepresented in this study. Second, there was a large attrition rate between Time 1 and Time 2; it is possible that unknown extraneous factors may have disproportionately affected the results of this study. Third, this study only included Chinese-speaking students from Taiwan and Mainland China, which therefore limits the generalizability of the findings to international students from other countries. Future research should also study international students from similar and/or different regions, such as East Asia, Southeast Asia, Africa, Latin America, Australasia, and Europe to determine the generalizability of our findings.

We used psychological distress as the indicator of acculturative adjustment patterns. Cross-cultural transitions may also affect other mental health and behavioral dimensions. Thus, the same patterns may not emerge when using other variables as indicators of acculturative adjustment. Future studies should use other indicators (e.g., psychological well-being, satisfaction with life, vocational adjustment/career development, substance use, academic performance) to gain a more complete picture of the acculturative adjustment process. Similarly, the results of this study were based on four time points across the middle of the first three semesters; future studies might explore the adjustment process across a longer period of time and/or with more frequent time points within each semester.

Further examination of the groups dealing with severe psychological distress and struggles (i.e., consistently distressed and culture-shocked) is needed. International students have been known to underuse counseling services (Raunic & Xenos, 2008), seek counseling when their symptoms are more severe (K. T. Wang, Patel, & Mustafoff, 2008), and are more likely to drop out of counseling prematurely (Nilsson, Berkel, Flores, & Lucas, 2004). One direction would be to examine variables that might predict their willingness to seek or actually use counseling services; another direction might be to examine more traditional Chinese sources of help or resources with less counseling-associated stigma such as campus international student offices. Assisting these distressed students in using various sources of assistance is imperative.

In summary, our study provides a great deal of new information about acculturative adjustment patterns of international students; we highlight four major conclusions from this study. First, findings of the study highlight the importance of using person-centered methods to examine varying longitudinal adjustment profiles among international students, in contrast to the overwhelming variable-centered studies in the existing literature that overlooks within-group differences over and above nationality of this extremely heterogeneous population. Second, our findings underscore the complexities within the cross-cultural transition process and the necessity of understanding that international students' acculturative adjustment varies across individuals, and is much more complex than depicted by the stereotypical "culture shock" model; in contrast, our results depicted four distinct groups of

acculturation, with 65% of the international students reporting low levels of psychological distress during their sojourn! Third, our data also support the major tenants of Berry's (1997) acculturation theory, not only the role of personality variables, acculturative stress, and the coping process but also the longitudinal perspective of identifying and examining pre- and postarrival factors that impact the psychological adjustment patterns of international students. In particular, our results support the role of prearrival psychological stress level and individual characteristics (e.g., self-esteem, maladaptive perfectionism), dispositional coping, combined with postarrival individual differences related to coping and social support in predicting the acculturation process. Fourth, our findings also broaden Berry's model by suggesting more complex coping models within the acculturation process, specifically pre-arrival dispositional coping and postarrival situation-specific coping. We encourage additional research in this area so that the complexities of international students' cross-cultural transitions can become better understood and more visible in our journals and broadly raise the awareness among students, faculty, counselors, and university administrators on U.S. campuses to help improve the services provided to international students.

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