

## East Asian International Students and Psychological Well-Being: A Systematic Review

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### Abstract

*The present article reports a systematic review of the studies related to psychological well-being among East Asian international students. A total of 18 quantitative studies published in peer-reviewed journals from 2000 to 2011 were reviewed. Our review revealed three major results: (1) a majority of researchers (n=13, 72.2%) tend to choose Chinese international students as a representative of East Asian and Asian international students in their studies; (2) studies on psychological well-being of East Asian international students are closely associated with the following variables: length of stay in host country, English proficiency, attitudes toward seeking help, depression, and acculturation; (3) depression was the most frequently reported variable (n=6, 33.3%), followed by acculturation (n=5, 27.8%). Recommendations for further research in psychological well-being were provided.*

**Keywords:** psychological well-being, East Asian international students.

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Over the past six years, the growth in numbers of international students enrolled in U.S universities has been remarkable. Between 2006 and 2012, enrollment of international students has increased from 157,178 to 228,467, with an average rate of 8.2% per year (Institute of International Education, 2012a). Recent data show that in the 2011-2012 academic year, there were 764,495 international students studying on campuses in the United States (Institute of International Education, 2012a). Nearly 65% of international students are drawn from Asian countries such as China (25.4% of the total international student population), India (13.1%), South Korea (9.5%), Saudi Arabia (4.5%), Taiwan (3.0%), Japan (2.6%), and Vietnam (2.0%) (Institute of International Education, 2012a). Of Asian international students, 63% are from countries in East Asia (China, Japan, South Korea, Mongolia, and Taiwan).

As the number of East Asian international students grows, the need for more ethnically sensitive and thorough study of this population becomes increasingly important. However, little scholarly literature provides a systematic review of the population, especially on their psychological well-being. Factors associated with a relative lack of research are multiple and complex. In terms of diversity and mobility, East Asian international students can be described as a group of people that consist of many different racial and ethnic groups (Chinese, Japanese, Taiwanese, and Korean). They usually stay in the host country for a short period of time to finish their degrees and then

return to their country of origin (Bochner, 2006). Other factors, such as their perception of health and well-being, attitudes toward seeking professional psychological help, English proficiency, levels of acculturation, and racial and ethnic identity, have also been associated with psychological well-being in the literature but are less well studied. Accordingly, these factors have a negative impact on investigating psychological well-being among East Asian international students.

Numerous published studies have described factors related to psychological well-being among East Asian international students, but many have been small, with a monolithic sample, or purely qualitative in nature. Moreover, a majority of these studies focused on a small number of variables, such as acculturative stress (Nilsson, Butler, Shouse, & Joshi, 2008), depression (Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007), cultural adjustments (Camalcilar & Falbo, 2008; Nilsson et al., 2008; Wang & Mallinckrodt, 2006), health and well-being (Rosenthal, Russell, & Thomson, 2008), racial/ethnic identity and Asian value (Iwamoto & Liu, 2010). Our research of relevant databases (e.g., Academic Search Complete and Psychological & Behavioral Sciences Collection) revealed that no systematic reviews have been published on how these factors, alone or in combination, can differentially affect psychological well-being among East Asian international students, nor have systematic reviews been conducted seeking to summarize what is known about psychological well-being associated with the group. A systematic review is a critical evaluation of all research studies that address a particular topic. Furthermore, it is very important not only to encourage more quantitative research but also to promote standards of the methodology, especially as it relates to psychological well-being of East Asian international students. Accordingly, the aims of this article are to (a) systematically review relevant quantitative research articles over the last decade, (b) provide a content analysis of studies regarding psychological well-being of East Asian international students, and (c) generate suggestions for future research in this area.

### **East Asian International Students**

There are many definitions of international students in the literature. One of the earliest came from the United Nations Educational, Scientific and Cultural Organization (UNESCO), which defines *international students* as “students who have crossed a national or territorial border for the purposes of education and are now enrolled outside their country of origin” (Global Education Digest, 2006, p.178). As an expansion of the above definition, in the article reported herein, *East Asian international students* are defined as students who are from East Asian countries (e.g., China, Japan, Korea, Taiwan), who have crossed a national border for the purposes of education, and now are enrolled outside their country of origin.

Other definitions delineate international students in terms of sojourners or student sojourners. Bochner (2006) defined the term *sojourner* as “individuals who travel abroad to attain a particular goal within a specified period of time” (p. 181). Compared with immigrants and refugees, student sojourners belong to a typical population with distinct characteristics. First, student sojourners usually stay in the host country for a short period of time and then return to their country of origin. During this period, they often are partially acculturated because of their limited cross-cultural contracts (Bochner, 2006). Second, they are “vulnerable to dislocation” (e.g., mobile and lack a permanent residence) and have “transnational backgrounds” (e.g., foreign newcomer) (Hamann, 2001, p.32). Therefore, student sojourners are often “unrecognized and ill served by the common praxis and organization of schools” (Hamann, 2001, p. 32).

A review of the literature indicates that East Asian international students have difficulty integrating into the academic and social environment at predominantly White institutions (PWI) in

the United States (Sato & Hodge, 2009; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008), and their well-being as well as academic performance can be greatly impacted by adjustment challenges if their original culture is completely different from the culture in host country (Bochner, 2006; Cemalcilar & Falbo, 2008). Studies have shown that adjustment challenges derive from: acculturative stress (Berry, Phinney, Sam, & Vedder, 2006; Li, Liu, Wei, & Lan, 2013; Wang & Mallinckrodt, 2006; Ye, 2005), perceived discrimination (Wei et al., 2008), homesickness (Poyrazli & Lopez, 2007; Tognoli, 2003), language proficiency (Sue & Sue, 2007; Yeh & Inose, 2003), and other issues (Iwamoto & Liu, 2010; Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004). Consequently, East Asian international students often experience several psychological problems such as stress (Wei et al., 2007), depression (Zhang, 2012), and loneliness (Anderson, 1999).

### Psychological Well-Being

*Psychological well-being* in terms of definition is usually described as “the combination of feeling good and functioning effectively” (Huppert, 2009, p. 137). Traditionally, research on psychological well-being focuses on personal growth and challenges of life such as self-actualization (Maslow, 1968) and life stage virtues (Erikson, 1959). In recent decades, scholars tend to explain psychological well-being in a theoretical and philosophical perspective (Keyes, Shmotkin, & Ryff, 2002; Ryff & Singer, 1996). For instance, Ryff (1989) suggested a multidimensional model for defining psychological well-being, with emphasis given to self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth.

Psychological well-being research on East Asian international students is dramatically weighted on the side of challenges of life. Over the past 50 years, a majority of researchers were concerned with the adjustment of sojourners (e.g., immigrants, refugees, travelers, students) to new cultures (Bochner, McLeod, & Lin, 1977; Church, 1982; Oberg, 1960; Selltitz, Hopson, & Cook, 1959). Specifically, Coates (2004) divided the studies into two types of theories: recuperation models (U-curve and culturally recovery) and culture learning models (communication and behavioral learning). For recuperation models, Oberg’s four sequential stages adjustment mode and his concept of “*culture shock*” (1960) were most representative. In recent decade, the concept of “*acculturative stress*” (Berry, 1970) was recognized by acculturation academia as one of the important theoretical approaches which conceptualize psychological difficulties in the cross-cultural adaptation process. According to Berry (2006), *acculturative stress* is defined as “a response by people to life events that are rooted in intercultural contact” (p. 43). Compared with culture shock, acculturative stress is considered as a more positive concept because it not only includes psychological stressors in culture shock such as depression and anxiety but also provides four strategies on how people handle with their acculturation experiences (Berry, 2006). Based on the theoretical framework of acculturative stress, many studies for East Asian international students were conducted and expanded to various areas, including general stressors (Myers-Walls, Frias, Kwon, Ko, & Lu, 2011), perfectionism (Rice, Choi, Zhang, Morero, & Anderson, 2012), Internet use (Li, Liu, Wei, & Lan; Ye, 2005), self-concealment, social self-efficacy, and depression (Constantine, Okazaki, & Utsey, 2004).

### Methods

#### Data Resources

All data were searched through the Elton B. Stephens Company (EBSCO) database engine, including general database, communication database, education database, health sciences database, and psychology database. The key words used were: “*international students*”, “*Asian international students*”, “*East Asian*”, “*mental health*”, “*mental illness*”, and “*psychological well-being*”. The

search of published articles from 2000 to 2011 was originally performed in May 2012 and ended in July 2012.

### Inclusion and Exclusion Criteria

Inclusion criteria for this study were as follows: (a) a study had to report statistically significant factor(s) ( $p < .05$ ) associated with psychological well-being among East Asian international college/university students, which means quantitative research articles were included in the review; (b) the articles were published in English; (c) the articles have been reviewed by peers; (d) full text can be retrieved; (e) mixed research were included in the review; (f) they were published between 2000 and 2011; (g) participants were East Asian international students, excluding the students from non-Asian countries or the country spanning two continents, like Turkey and Russia; and (h) studies were conducted in English-speaking countries, such as Australia, Canada, United Kingdom, and United States.

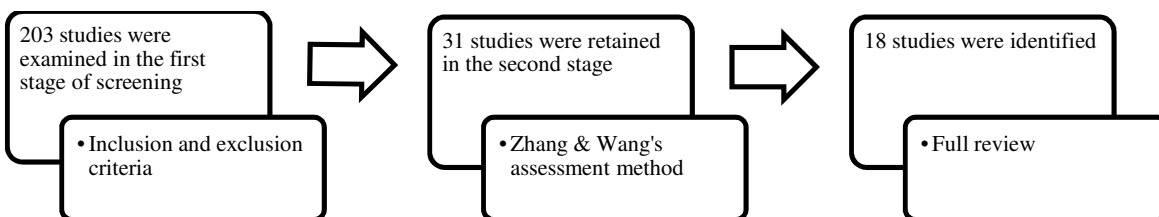
Studies were excluded from the review if (a) they were qualitative in nature; (b) they were not peer-reviewed articles; (c) they were low levels of evidence; (d) researched participants were including non-Asian international students; (e) they were reviews or letters to the editor; (f) they were not written in English; (g) studies were unpublished. The authors chose the inclusion and exclusion criteria to narrow down the review focus.

### Data Abstraction Procedure

Consistent with content analyses of Zhang and Wang (2008), researchers first found 203 peer-reviewed journal articles after the initial analysis of databases. Two independent raters reviewed all abstracts to determine if they met the inclusion and exclusion criteria. Of raters, 100% agreement was achieved in reducing articles from 203 to 31. In the second stage of screening, researchers used Zhang and Wang's assessment method (2008; see Table 1) to further abstract 31 selected articles. Their method was developed based on Garrard's matrix method (1999) that is a strategy for reviewing the literature. According to Garrard (1999), matrix method may help researchers find out the missing information in the study area. Based on Zhang and Wang's assessment criteria (2008), 13 articles were removed by raters after careful examination. Finally, 18 articles were retained for full review. The authors used tables to record the screening procedures and assess the methodological quality of articles. They met weekly over a period of two months to report progress and discuss the procedure of content analysis.

In the reference of Schuler, Chu, and Smith-Bindman's (2007) rating principle, questions and ambiguities identified in the screening process were discussed between two raters. All disagreements were resolved by consensus. Figure 1 is a flow diagram of eligible studies.

Figure 1. *Flow Diagram of Eligible Studies*



## Quality Assessment

In order to guarantee quality of this study, all articles identified through inclusion and exclusion criteria were reviewed by two independent raters in the first stage, and all the discrepancy was eliminated by the discussion between raters. Based on Zhang and Wang's criteria (2008), researchers used the same scale to rate articles in the second stage of this study. Table 1 presents assessment criteria and the number and percentage of studies meeting the criteria.

Table 1. *Assessment Criteria and the Number and Percentage of Studies Meeting the Criteria*

No	Criterion	Score	Number of studies meeting the criterion	Percent of studies meeting the criterion
1	Provided operational definition of dependent variable (DV)	1	18	100
	Did not provide operational definition of	0	0	0
2	Tested own DV data's validity (including on whole instrument)	1	18	100
	Did not test own DV data's validity	0	0	0
3	Tested own DV data's reliability (including on whole instrument)	1	18	100
	Did not test own DV data's reliability	0	0	0
4	Tested own independent variable (IV) data's validity or reliability (including on whole instrument)	1	18	100
	Did not test own IV data's validity or reliability	0	0	0
5	Random/probability sampling	1	4	22.2
	Not random/nonprobability sampling	0	14	77.8
6	Employed longitudinal design	1	1	5.6
	Employed cross-sectional design	0	17	94.4
7	Interview conducted in Asian languages (e.g., survey was translated and backtranslated to ensure cultural sensitivity and accuracy)	1	2	11.1
	Interview conducted in English only or did not report language used in interview	0	16	88.9
8	Used multiple/logistic regression as the highest level of statistical analysis	1	10	55.6
	Used bivariate statistics (Pearson's r and chi-square) as the highest level of statistical analysis	0	8	44.5
9	Reported effect sizes	1	12	66.7
	Did not report effect sizes	0	6	33.4
10	Presented theoretical linkages to connect IV and DV	1	18	100
	Did not present theoretical linkages	0	0	0
Maximum		10	N/A	N/A

In addition, Cohen's Kappa coefficient ( $K$ ) was used to quantify actual levels of agreement on article selection between two independent raters and evaluate inter-rater reliability. According to Krippendorff (1980), researchers usually consider  $K > .8$  as good reliability and an acceptable level of agreement. In this study, the final inter-rater agreement calculated by SPSS for nominal categories is  $K = .96$ .

## Results

### General Description

A total of 18 quantitative studies describing 3,434 Asian international students published between 2000 and 2011 were included in the final analysis. Overall, 72% of studies were concerned only with East Asian international students (studies 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, and 18). 28% of studies focused on examining differences between East Asian international students and other students such as Asian American students (study 5), Japanese American students (study 1), Korean American students (study 17), Latino American students (study 2) and others (study 14). In terms of sample type, 72% of studies revealed that a majority of participants were Chinese international students from Mainland China, Hong Kong, and Taiwan. The sample size of the studies ranged from 75 to 979 participants. 89% of studies reported their sample sizes ranging from 100 to 200. 11.1% of studies (study 10 and 14) had sample sizes larger than 500.

### Methodological Quality of the Studies

Each article was assessed for methodological quality according to Zhang and Wang's assessment criteria in their systematic review of factors associated with smoking in Asian American adults. In this study, the total methodological quality scores ranged from 1 to 9. The methodological score of the reviewed studies was  $M = 6.44$ . A total of 13 studies scored above the mean (studies 1-4, 7, 8, 10-15, and 17); and study 12 had the highest score. Of all the reviewed studies, 55.6% used advanced analysis methods (e.g. using multiple/logistic regression); 83.3% studies reported theoretical linkage between independent variables and dependent variables. However, a majority of studies failed to meet several of criteria, including random sampling, longitudinal design, and interview conducted in Asian language. For example, only one (11.1%) study had longitudinal design; two (11.1%) studies used participants' native language in the interview; 4 (22.2%) studies used random sampling. Table 2 presents authors, sample sizes, language used in the interview, and design of each study.

Table 2. *Authors, sample sizes, language used in the interview, and designs*

No	Study	Participants	Design	Language used in the interview
1	Iwata & Higuchi, 2000	N=130; 50 Japanese international Students	Cross-sectional study	Japanese
2	Wilton & Constantine, 2003	N= 190; 124 Asians; and 65 Latinos	Cross-sectional study	English
3	Yamaguchi & Wiseman, 2003	N=90 Japanese international students	Cross-sectional study	English
4	Zhang & Dixon, 2003	N=170 Asian international students	Cross-sectional study	English
5	Chang & Chang, 2004	N=109 Asian American and Asian international students	Cross-sectional study	English
6	Ye, 2005	N=115 East Asian international students	Cross-sectional study	English
7	Wang & Mallinckrodt, 2006	N=105 Chinese and Taiwanese international students; random sampling	Cross-sectional study	English

8	Ye, 2006	N=112 Chinese international students	Cross-sectional study	English
9	Dao, Lee, & Chang, 2007	N=112 Taiwanese international students	Cross-sectional study	English
10	Pan, Wong, Joubert, & Chan, 2007	N=627 Chinese international students; random sampling	Cross-sectional study	English
11	Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007	N=189 Chinese and Taiwanese international students	Cross-sectional study	Chinese
12	Cemalcilar & Falbo, 2008	N=347 Asian international students; random sampling	Longitudinal study	English
13	Nilsson, Butler, Shouse, & Joshi, 2008	N=76 Asian international students	Cross-sectional study	English
14	Rosenthal, Russell, & Thomson, 2008	N=979 international students; 76% from East Asian countries; random sampling	Cross-sectional study	English
15	Wei, Ku, Russell, & Mallinckrodt, 2008	N=354 Asian international students	Cross-sectional study	English
16	Masuda, Hayes, Twohig, Lillis, Fletcher, & Gloster, 2009	N=234; 50 Japanese international students; 184 U.S. students	Cross-sectional study	English
17	Lee, Yun, Yoo, & Nelson, 2008	N=107 Korean college students; 29 Korean international student	Cross-sectional study	English
18	Tochkov, Levine, & Sanaka, 2010	N=75 international students; 40.53% from India.	Cross-sectional study	English

### Measurement of Outcome Variables

The study examined outcome variables that were associated with psychological well-being of East Asian international students in the process of cross-cultural adaptation (see Table 3). There are a total of 17 variables drawn from 18 selected articles and classified into five distinct categories, based on their attributes and relation to psychological well-being. The categories include demographics, multicultural competence, help-seeking attitudes, sociocultural factors, and psychological factors. As indicated by Table 3, the most frequently studied variables under each category are length of stay in host country (e.g., reported frequency  $n = 3$ , 16.7%), English proficiency ( $n = 4$ , 23.5%), attitudes toward seeking help ( $n = 1$ , 6%), acculturation ( $n = 5$ , 27.8%), and depression ( $n = 6$ , 33.3%). Of 17 variables, the top five frequently studied ones are depression, acculturation, discrimination/English proficiency ( $n = 4$ , 22.2%), and length of stay/acculturative stress ( $n = 3$ , 16.7%).

Consistent with content analysis of Zhang and Wang (2008), Table 3 presents statistically significant correlations among 17 variables investigated by the authors from 18 studies. The symbol “+” and “-” respectively represent positive and negative correlation between corresponding horizontal and vertical factors. For instance, the variable *length of stay in host country* (#3) under the category of demographics shows a positive relationship with *English proficiency* (#4) and *negative relationships with anxiety* (#10), *acculturative stress* (#11), *psychological distress* (#14), and *sociocultural adjustment difficulties* (#16) in the studies (studies 2, 7, and 8). Accordingly, we concluded that East Asian students who have stayed in host country for a long while are more likely to improve their English proficiency, and reduce the level of anxiety, acculturative stress, and psychological distress.

Table 3. *Statistically correlations among 17 factors*

<b>Direction of association</b>																		
Outcome Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Studies reporting the factor
<b>I. Demographics</b>																		
1. Age				-	+			+			+							8
2. Gender												-						8
3. Length of staying in host country				+						-	-			-		-		2, 7, 8
<b>II. Multicultural Competence</b>																		
4. English proficiency				+			+	-			-	-					-	6, 7, 8, 9
5. Intercultural competence								+						-	+			2, 4
<b>III. Help-seeking Attitudes</b>																		
6. Attitudes toward seeking professional help								+										4
<b>IV. Sociocultural Factors</b>																		
7. Acculturation					+	+	+			-		-		+				4, 7, 8, 9, 13
8. Discrimination	+				-					-		+	+					6, 8, 15, 17
9. Social support									-		-	-						8, 9
<b>V. Psychological Factors</b>																		
10. Anxiety													+			+		7, 18
11. Acculturative stress	+	-	-	-									+					8, 10, 11
12. Depression																	+	9, 11, 13, 15, 17, 18
13. Homesickness									+	+		+						6, 18
14. Psychological distress										+								2, 13
15. Psychological stress													+					2, 13, 15
16. Sociocultural adjustment difficulties											+							7
17. Perfectionism																	+	13

## Discussion

Eighteen studies, including 17 cross-sectional studies and one longitudinal study from January 2000 to June 2012, were identified and summarized in the systematic review of psychological well-being among East Asian international students. We found that (1) a majority of researchers ( $n = 13$ , 72.2%) tend to choose Chinese international students as a representative of East Asian and Asian international students in their studies; (2) studies on psychological well-being of East Asian



international students are closely associated with the following variables: length of stay in host country, English proficiency, attitudes toward seeking help, depression, and acculturation; and (3) depression was the most frequently reported variable ( $n = 6, 33.3\%$ ), followed by acculturation ( $n = 5, 27.8\%$ ).

Given the current trend, Chinese international students are becoming the most frequently studied representative of East Asian and Asian international students due to their amount and cultural identity. Choudaha and Chang (2012) reported that one in five of international students all over the world are from either China or India, particular for Chinese students on F-1 visa at the end of 2011 with an increase by 28% to nearly 200,000. Between 2011 and 2012, China surpassed India and became the largest group of international students ( $n=194,029$ ) coming to the United States (Institute of International Education, 2012b). In addition, Chinese students possess a wide range of Asian cultural identity, including filial piety, higher level of collectivism, and restraint of feelings (Liu, 2009; Wu, 2011). Accordingly, the above factors result in Chinese students (China and Taiwan) recruited in a higher education system outside their home country becoming a more suitable sample for researchers than students from other Asian countries.

Our finding of outcome variables is consistent with earlier studies on psychology well-being among Asian international students (Berry, Phinney, Sam, & Vedder, 2006; Sam & Berry, 2006). For instance, it is well-documented that many Asian international students experience acculturative stress in the process of acculturation (Berry, 2006; Kung, 2004; Marbley, 2011). Based on the center of acculturation, recent studies in the literature have indicated: (a) acculturative stress and language proficiency contribute to depression (Bernstein, Park, Shin, Cho, & Park, 2011; Miller & Chandler, 2002; Oh, Koeske, & Sales, 2002); (b) level of acculturation decides attitude toward seeking professional psychological help (Hamid, Simmonds, & Bowles, 2009; Miller, Yang, Hui, Choi, & Lim, 2011); (c) low language proficiency is considered a barrier to seeking professional psychological help (Kung, 2004; Sam & Berry, 2006; Sue & Sue, 2007); and (d) length of stay is closely related to level of acculturation and English proficiency (Kuo & Roysircar, 2004).

### **Limitations and Recommendations for Future Research**

There are several limitations existing in the present study. First, we limited this systematic review to five data bases of EBSCO. As a result, other significant research databases are missing from this review, including FirstSearch, Lexis-Nexis, Scopus, and Web of Knowledge. Second, it was limited to articles published in English between 2000 and 2011. Third, participants recruited in our selected articles were not completely composed of East Asian international students. Many articles used a combination of East Asian international students and other students (e.g., Japanese American students and Korean college students). Therefore, the result will be limited by the above factors. Future systematic review in the area of East Asian international students could address these limitations by selecting more research databases and expanding search range, in addition to using articles that only focus on East Asian international students

Despite the limitations, the results of this study contribute to the body of literature that addresses psychological well-being among East Asian international students. Although a few novel findings were reported, much more work is still needed in the area of international students in the United States. Researchers need to be aware of the trend that East Asian international student are rapidly increasing and make use of this opportunity to investigate major variables (e.g., acculturation, depression, length of stay, English proficiency) related to psychological well-being. In addition, more quantitative research methods should be adopted in the future research, including meta-analysis, factor analysis, and longitudinal data analysis. These analysis methods could help

assess effect size of relevant studies, investigate the mutual relationship of variables, and track developmental trend of East Asian international students in the United States and other countries.

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