

**EXPLORATORY STUDY OF DISTRESS AMONG SPOUSES OF INTERNATIONAL
STUDENTS**

By

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To my father.

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Abstract of Dissertation Presented to the Graduate School
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**EXPLORATORY STUDY OF DISTRESS AMONG SPOUSES OF INTERNATIONAL
STUDENTS**

By

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Female spouses of international students who enter the United States on a dependent visa status experience a unique set of challenges while accompanying their husbands abroad. Over the past five decades, international students have become a significant presence on United States university campuses, with approximately 565,000 international students from over 180 countries recorded in 2004. Survey data show that approximately 23% of international graduate students are married, and 85% of married international students arrive for their sojourn in the company of their spouse or partner. While international students have attracted considerable research interest and represent one of the most intensely studied populations in the culture contact literature, spouses of international students have received comparatively little attention.

This study of 134 female spouses of international students examined the relationship between spouses' acculturative stress and psychological distress as well as the role of social support and marital satisfaction as potential moderators in the link between acculturative stress and psychological distress. It also tested additional exploratory questions related to spousal adjustment, including English fluency, financial concerns, stress related to husband's academic progress, goals for the sojourn, and occupational and homemaker role reward value. Participants

were solicited by a combination of email, letters, and flyers sent to international student organization and programs at 45 U.S. universities with the largest number of international students.

Results of hierarchical regression analyses revealed a positive relationship between acculturative stress and psychological distress. High and low levels of marital satisfaction moderated the relationship between acculturative stress and psychological distress while social support did not. Results of exploratory research questions showed, among others, a positive relationship between the amount of spouses' support programs offered by their husbands' universities and spouses' levels of perceived social support. Results are addressed by discussing challenges faced by spouses of international students, the role of marital relationship as well as the necessity and nature of programs offered to spouses and international couples during their sojourn.

CHAPTER 1

INTRODUCTION

Over the past five decades, international students have become a significant presence on United States university campuses, with approximately 565,000 international students from over 180 countries recorded in 2004, according to the Open Doors report (Institute of International Education, 2005). Notably, 22.5% of international graduate students who enter the United States were married, based on the Open Doors data. While international students have attracted considerable research interest and represent one of the most intensely studied populations in the culture contact literature, spouses of international students have received comparatively little attention.

Several researchers have proposed reasons for the absence of spouses in the cross-cultural literature, among them their “invisibility” on university campuses due to the lack of assigned tasks or goals for their sojourn (De Verthelyi, 1995, p. 389), as well as spouses being institutionally unconnected and therefore of no direct interest to college administrators (Schwartz & Kahne, 1993). On the other hand, authors have pointed to the impact that the presence of spouses may have on the well-being of the accompanied international students, such as providing a social and emotional support system. These authors have also called for further research in this area in order to provide culturally sensitive counseling services to both international students and their families alike (Bradley, 2000; Furnham, 2004; Mallinckrodt & Leong, 1992; Pedersen, 1991; Yoon & Portman, 2004).

One of the primary characteristics of the spouses’ stay in the United States is their role being contingent on the partner’s academic plans and career aspirations (Schwartz & Kahne, 1993; Vogel, 1985). While several visa types allow for student entry to the U.S., the majority of international students carry an F-1 or a J-1 student visa (IIE, 2005). Spouses are eligible to join

the sojourn as F-2 or J-2 visa holders if they can document a legal marriage between members of the opposite sex. Girlfriends/boyfriends, fiancées, same-sex partners (even if in a marriage legally recognized in other countries), or common-law (i.e., unmarried) living arrangements are not recognized as being eligible for a dependent status by United States government agencies (U.S. Department of State, 2006). It is noteworthy that F-2 visa holders are unable to seek work or enroll as degree-seeking students. Similarly, they may volunteer only if the position in which they are interested in has always been a volunteer position, and always will be. Evidently, their stay in the U.S. is entirely dependent on that of the principal alien. If the F-1 student leaves the country, even for an extended vacation term, the F-2 individual must leave as well. Similarly, J-2 dependents are not allowed to seek employment that has the potential to financially support the primary visa holder (U.S. Department of State, 2006).

Previously, a limited number of qualitative studies have investigated issues surrounding the sojourn of international student spouses. Some of the topics addressed were pre-arrival dimensions and early adjustment processes (De Verthelyi, 1995), adjustment difficulties and support for foreign student wives in university settings (Schwarz & Kahne, 1993; Vogel, 1986), the description of a model community program to acclimate spouses of international students (Ojo, 1998), marital relationships of Taiwanese couples during their sojourn (Chang, 2004), and Chinese wives' perceptions of their lives in the U.S. (Lo, 1993; Shao, 2001). Despite these authors' descriptions of great variability among spouses, with some individuals experiencing easier adaptation and a more relaxed lifestyle in their new role than in their home country, investigators have unanimously underscored the oftentimes challenging tasks accompanying spouses may face when following their partners abroad. Some of these challenges include acculturative stress (e.g., homesickness/loneliness, ethnic/racial discrimination, stress due to

cultural differences, and guilt for leaving family and relatives behind), language and financial difficulties, and significant career-related role changes, among others. Notably, whereas international students have prescribed roles as students within the university system and a network of academic support in the form of advisors, area colleagues, and fellow national and international students, spouses have limited access to the university system and may therefore experience a strong disruption of their personal and professional lives upon their sojourn (De Verthelyi, 1995; Schwartz & Kahne, 1993; Vogel, 1985).

The purpose of this study was to examine the impact of acculturative stress, English language fluency, financial concerns, and stress related to husband's academic progress on spousal psychological adjustment. Further, this study examined the potentially buffering effects of social support and marital satisfaction in the link between these stressors and spouses' psychological adjustment. In addition and due to the exploratory nature of this project, a number of tentative questions were tested as well.

Chapter two will provide an overview of the literature, including a profile of international students and spouses. Further, the literature review will outline major theories and research on sojourner and spouse adjustment primarily from a stress and coping framework. Acculturative stress (Sandhu & Asrabadi, 1994) will be described, along with the impact of spouses' English language fluency, financial concerns, and stress related to husband's academic progress. In addition, the roles of social support and marital satisfaction as potential coping strategies will be discussed. Primary and secondary research questions and hypotheses will be presented at the end of the second chapter, followed by exploratory questions.

Chapter three will cover data collection, sample description, and instruments used. Chapter four will present the data analyses. Finally, chapter five will discuss the results of the study and

their implications, along with limitations, final conclusions, implications for practice, and future directions for research.

CHAPTER 2

REVIEW OF LITERATURE

This chapter provides an overview of topics in relation to the proposed study. The review will cover literature on sojourner adjustment in general and on spouse cross-cultural adjustment in particular. Profiles of international students and spouses, as well as sources of spouses' acculturative stress and psychological adjustment during the sojourn in the United States will be explored, along with English language fluency, financial concerns, and stress related to husband's academic progress. Social support and marital satisfaction will be discussed in relation to their role as possible moderators of stress on psychological adjustment.

Characteristics of Spouses of International Students

Definition

For the purpose of this study, spouses of international students are defined as married partners of international students who have originally arrived in the United States under an F-2 or J-2 "dependent" visa and are current F-2 or J-2 visa holders. There are several possibilities as to how student couples might arrive in the United States: First, a couple might be married in their home country with one spouse coming to the United States with a student visa (F-1/J-1), while the other arrives under a dependent visa (F-2/J-2), with partners arriving either simultaneously or independently. Second, the couple arrives with both students having applied for student status prior to arrival and thus both coming to the United States as international students (F-1/J-1). And thirdly, international students (F-1/J-1) may meet their future spouse while residing in the United States whereas the partner may or may not be an international student (Chang, 2004).

Due to their immigration status, F-2 visa holders are restricted from working and studying in the United States, and they are allowed to volunteer only under limited circumstances (U.S. Department of State, 2006). J-2 visa holders, on the other hand, are allowed to seek employment,

however under limited circumstances. The U.S. Department of State (2006) notes that “the spouse and/or children of an exchange visitor in the U.S. may not work in J-2 status. If employment is desired, the appropriate work visa will be required.” Spouses who wish to work have to prove that the additional income is not to support the J-1 student. Employment can only be sought for “J-2 travel, recreational, or cultural activities” (MIT International Scholars Office, 2007).

Demographic Profile of International Students and Spouses

The numbers and demographic make-up of spouses of international students in the United States can be inferred only indirectly from official data on international students (see below). The focus of this study was on female spouses of international students since the number of male spouses was found to be significantly smaller (De Verthelyi, 1995). The following information describes demographic characteristics of international students in the United States. Wherever possible, data on spouses of international students will be integrated.

Gender and marital status

According to the 2005 Open Doors report, 59.9% of international graduate students were male and 40.1% female. Further, 22.5% of international graduate students were married, compared with 4.9% of international undergraduate students who were married (IIE, 2005). A gender breakdown as to how many spouses are male versus female cannot be determined from national report data. Estimates are that a significantly larger number of spouses of international students are female rather than male (De Verthelyi, 1995). According to U.S. Immigration and Customs Enforcement statistical data, there were 71,969 F-2 student dependents and 45,337 J-2 dependent visa holders residing in the U.S. as of September 30, 2004. This number includes foreign nationals who are either a spouse or a child of an F-1 visa holder, while a breakdown indicating gender or percentage of spouses and children is not provided (SEVIS, 2005).

Numbers of international students and degrees

According to the 2005 Open Doors report on international student exchange data, a total of 565,000 international students were enrolled in United States higher education institutions during the 2004/2005 academic years, of which 274,000 attended graduate school (IIE, 2005). During the 2004/2005 academic years, the areas of study with highest enrollment by international graduate students in the U.S. were: Engineering (23.8%), Business and Management (14.9%), Physical and Life Sciences (13.3%), Math/Computer Sciences (11.4%), and Social Sciences (9%). International graduate students obtained 14% of all master's level degrees and 25% of all doctoral level degrees conferred in 2002/03, while 3% of all undergraduate degrees were awarded to international students (National Center for Education Statistics, 2004). For both master's and doctoral level degrees, international students were the largest group after White non-Hispanic students (IIE, 2005).

The overall percentage of international students attending higher education institutions increased steadily over the past decade (IIE, 2005). Only recently the growth rate of international students diminished, such as by 1.3% in 2004/2005 from the previous 2003/2004 academic years, while for international graduate students alone, the U.S. saw a drop of 3.6%. The 2005 Open Doors report stated that the reasons for a decrease in international students at U.S. higher education institutions are several, among them the “real and perceived difficulties in obtaining student visas (...), rising U.S. tuition costs, vigorous recruitment activities by other English-speaking nations, and perceptions abroad that it is more difficult for international students to come to the United States” (IIE, 2005).

According to reports by the Institute of International Education (2005), international students attending U.S. higher education institutions originate from more than 180 countries. Leading countries in 2004 included India (80,500), China (62,500), Republic of Korea (53,400),

Japan (42,200), Canada (28,100), Taiwan (25,900), Mexico (13,000), Turkey (12,500), Germany (8,600), and Thailand (8,600). According to SEVIS (2005) data, the top numbers for F-2 visa holders came from the Republic of Korea (32,976), China (15,489), Japan (7,341), India (6,448), and Taiwan (2,786). These numbers do not differentiate between spouses and dependent children. A breakdown of J-2 visa holders by countries was not provided (SEVIS, 2005).

During the 2004/2005 academic year, the following universities hosted the largest number of international students: University of Southern California, Los Angeles (6,800; 23% of total student enrollment), University of Illinois at Urbana-Champaign (5,600; 14% of total enrollment), and University of Texas at Austin (5,300; 11% of total enrollment) (IIE, 2005).

Significance of international student families for U.S. higher education

Over the past 50 years, the United States has attracted students from all over the world to pursue training and research in various academic fields. While venturing abroad for academic studies has been a longstanding tradition for many countries and is common in numerous research areas, the United States has become a center for advanced technology and scholarly pursuits with more international students enrolled at U.S. universities than in any other nation (IIE, 2005).

While the presence of international students promotes cultural and educational exchange both during their stay in the United States as well as upon their return to their homeland, foreign students' attendance at higher education institutions has also become part of a commercial industry in the United States. In 2005/06, net contributions to U.S. economy by foreign students and their families was \$13.491 billion, spent on tuition, living expenses, and related costs (Open Doors Special Report, 2007). Similarly, the Open Doors Special Report (2007) estimated net contributions to the U.S. economy by foreign student dependents of up to \$432 million in 2005/06. Ward, Bochner, and Furnham (2001) have noted that "although there is some resistance

by traditional academics to the notion that they are now part of a commercial industry and that functionally students have become clients, there is no turning back. Many institutions have now become utterly dependent on the income generated in this way” (p. 145). Not surprisingly, intense competition exists among countries such as Britain, Canada, Australia, and New Zealand, with each country devoting considerable resources to attract international students to their higher education institutions (Ward, et al., 2001). At least partially, previous studies on international students’ adjustment ought to be seen in the context of this trend with the goal to provide competitive services for international students along with promoting and enhancing students’ well-being during their sojourn. By the same token, some universities have recognized the importance of paying attention to families of international students and have begun offering services to spouses of international students such as free language, community, and family programs (Bradley, 2000; Furnham, 2004; Yoon & Portman, 2004). Nevertheless, the well-being of accompanying family members has received comparatively little attention, despite the potential impact that both the presence and adjustment of spouses may have on international student academic progress and retention (Furnham, 2004).

Sojourner Adjustment

Introduction

A sojourn can be defined as a “temporary stay in a new place” (Ward et al. 2001, p. 143). The length of stay may vary depending on the assignment but is commonly described as between 6 months to five years, and the stay is of voluntary nature with the intent to ultimately return home. Ward et al. (2001) list a variety of sojourner categories including “expatriate business people, diplomats, members of the armed forces, students, volunteers, aid workers, and missionaries” (p. 143). These authors are stressing the importance of rapid sojourner adjustment to a host culture in order for the individual to function effectively in his or her newly assumed

educational or occupational position (Church, 1982; Furnham, 2004; Pedersen, 1991; Ward et al. 2001).

The majority of research on sojourner adjustment has focused on international students and business individuals alike, with a steady increase of publications in these areas over the past 30 years (Black, 1988; Church, 1982; 1990; Ward et al., 2001). While there is a significant lack of empirical studies devoted to the well-being of spouses of international students, some attention has recently been given to examining the determinants of intercultural adjustment among expatriate spouses, i.e., husbands and wives of business people assigned to work abroad (Ali, Van der Zee, & Sanders, 2003; Black & Gregersen, 1991). Several authors within the expatriate literature have noted that the adaptation of expatriate business individuals seems to be affected by the adaptation of their spouses to the foreign country, and negative adjustment among spouses may in turn have a diminishing impact on the expatriate's work performance during his or her foreign assignment (Ali et al., 2003; De Leon & McPartlin, 1995; Solomon, 1996; Storti, 2001; Takeuchi, Yun, & Tesluk, 2002). Black and Gregersen (1991) concluded that spousal adjustment appears to be a crucial factor as to how successfully an expatriate carries out his or her global work assignment. For example, Black and Stephens (1989) reported a strong correlation between adjustment levels of expatriates and their spouses. The authors further discussed the negative relationship between both partners' level of adjustment and the expatriates' intent to return home prematurely. Similarly, Fukuda and Chun (1994) discussed a couple's family situation as one of the aspects that determined failure among Japanese expatriates. Further, a study by Shaffer (1996) showed that spousal adjustment had a moderating role in the relationship between expatriates' intention to withdraw from the business assignment and their commitment to remain in the position. Lastly, Storti (2001) noted that spouses have to adjust more than the expatriate

employees due to their unique situation. Lack of work opportunities, no structure in daily routines, loneliness, as well as resentment toward the move are among the adjustment issues the author cites.

Similar circumstances and factors might easily hold true for international students and their families while sojourning in the United States; however, no empirical studies have been noted in this area (Furnham, 2004). International students leave their familiar surroundings and start a new, albeit temporary existence in the United States. With almost a quarter of international graduate students being of married status, it is easy to imagine that the transition may be difficult for all accompanying family members. While numerous studies have documented the challenges that international students face upon arrival in a foreign host country, some authors point to the fact that the cross-cultural adjustment of spouses may be even more difficult or challenging in its own way (De Verthelyi, 1995). Evidently, while students find some continuity and a network of colleagues, advisors, and mentors, their respective spouses may experience a strong disruption of their personal and vocational life upon arrival. Similar to expatriate spouses, they also frequently do not receive structural support for coping with the immediate demands of their new surroundings (Ali, et al., 2003; De Leon & McPartlin, 1995; De Verthelyi, 1995; Yi, Lin, & Kishimoto, 2003; Yoon & Portman, 2004). Further, in describing the counseling needs and resources for international students, references have been made to the importance of paying attention to the social network of international students, including the accompanying family members (Chang, 2004; Furnham, 2004; Yi et al. 2003; Yoon & Portman, 2004).

Apart from one qualitative dissertation examining the marital relationship of four Taiwanese international student couples in the United States, little attention has been given to marital status of international students (Chang, 2004). Most recently, Poyrazli, Arbona,

Bullinton, & Pisecco (2001) included marital status as a variable in their examination of adjustment issues of Turkish college students in the U.S. The authors reported that marital status was significantly related to perceived level of social support in their sample. Similarly, in their survey of utilization by international students of counseling services at a major university in Texas, Yi et al. (2003) found that 16.9% of participants indicated being married. In their survey, “relationship with romantic partner” was listed as one of the top three concerns for international graduate students among the participants.

Models of Adjustment in the Sojourn Literature

With a vast array of empirical studies on cross-cultural adjustment conducted in the past, two theoretical approaches, the cultural learning approach and the stress and coping approach, have become strongly established in the sojourn literature and are broadly accepted as the “guiding forces in the field” (Ward et al., p. 37). Ward and colleagues have made an effort to bring together these two leading theoretical approaches in their research program and have concluded that researchers ought to consider two separate outcomes to the acculturative process: psychological and socio-cultural adjustment (Searle & Ward, 1990; Ward, 1996; Ward & Kennedy, 1994). The authors have discussed that, despite being interrelated, these two models are predicted by different variables and can be seen as conceptually distinct (Searle & Ward, 1990; Ward & Kennedy, 1994).

Cultural learning approach

The cultural learning approach specifies that adaptation occurs in the form of learning culture-specific skills necessary to function in a new cultural environment from a mainly behavioral viewpoint (Bochner, 1986; Furnham & Bochner, 1982). Consequently, socio-cultural adjustment is influenced by culture contact variables such as the quantity and quality of contact with hosts, as well previous cross-cultural experience and pre-arrival training (Searle & Ward,

1990; Ward et al., 2001; Ward & Rana-Deuba, 2000). Studies conducted employing a cultural learning approach have investigated variables such as knowledge about the new culture (Pruitt, 1978; Ward & Searle, 1991), length of residence in the host culture (Ward, Okura, Kennedy, & Kojima, 1998), previous experience abroad (Klineberg & Hull, 1979), and cultural distance (Ward & Kennedy, 1994). According to Ward et al. (2001), socio-cultural adjustment is relatively predictable as it improves quickly in the earliest stages of the cross-cultural encounter, reaches a plateau, and then tends to remain stable.

Stress and coping approach

In comparison, the stress and coping model regards cross-cultural transitions as a sequence of stressful changes that necessitate adequate coping strategies by the individual (Ward et al., 2001). Stress and coping theories have focused on identifying factors that contribute as significant stressors and may hinder adaptation in a culturally different environment. Even though sojourners have been studied from a variety of theoretical perspectives, the stress and coping framework is presently the most popular approach to examine cross-cultural adaptation and serves as the theoretical foundation employed in the present study (Berry, 1997; Lee, Koeske, & Sales, 2004; Misra, Crist, & Burant, 2003; Ward, 1996; Ward & Kennedy, 2001; Ward, et al., 2001).

The stress and coping approach views the contributors to cross-cultural adjustment similar to factors involved in adapting to other life experiences involving transitions, and it highlights the importance of potential stressors, coping mechanisms, and the respective physical and mental health outcomes of the individual in transition (Thoits, 1995; Ward et al., 2001; Yang & Clum, 1994). Within the cross-cultural literature, this approach has been particularly influenced by Lazarus and Folkman's (1984) work on stress, appraisal, and coping, and by Holmes and Rahe's (1967) research on impacts of life events.

According to Thoits (1995), “stress” or “stressors” are any environmental, social, or internal demands that require an individual to adapt his or her behavior. The literature identifies three major ways of conceptualizing stressors: life events, chronic strains and daily hassles. Apart from the cultural relocation counting as a major life event, spouses of international students also face several chronic strains involved with their relocation from a home country, adjusting to a new physical and social environment, and the challenges that arise from their specific situation, including their inability to work or study (De Verthelyi, 1995).

In the stress literature, social support is commonly conceptualized as a coping resource, i.e., a “social fund” people may access when confronting stressors (Thoits, 1995, p. 64). It is usually defined as supportive functions performed for the individual by significant others such as family members, friends, and colleagues (Thoits, 1995). Reviews of the literature show that perceived emotional support is associated with increased physical and psychological well-being and normally buffers the harmful impacts of major life events and chronic strains on physical and mental health, while social integration, i.e., the actual support network, does not (Cohen & Wills, 1985; Thoits, 1995).

Authors have also discussed the complexity of stress-related outcomes, including mental and physical health symptoms (Aneshensel, 1992; Holmes & Rahe, 1967; Thoits, 1995). A variety of outcome measures have been used to assess the adjustment of sojourners. Aspects of psychological well-being and satisfaction have been shown to be central to most of the models proposed in the cross-cultural adaptation literature, and they have included measures of depression (Constantine, Okazaki, & Utsey, 2004; Rahman & Rollock, 2004; Searle & Ward, 1990; Ward & Kennedy, 1994), suicide ideation (Yang & Clum, 1995), acculturative stress

(Poyrazli et al., 2004; Yeh & Inoseh, 2003), general well-being (Chao, 1999), and a combination of affective, behavioral, and cognitive reactions (Misra et al., 2003).

Authors have also emphasized the distinction between an earlier, medical model of cross-cultural transition and the stress and coping model (Furnham & Bochner, 1982; Ward et al., 2001; Yoon & Portman, 2004). While the medical view presupposes the outcome of cultural transition as unavoidably negative and pathological, the stress and coping approach acknowledges the presence of stressors yet emphasizes possible coping mechanisms. Further, the stress and coping approach conceptualizes the transition from a more social perspective, i.e., it takes socio-cultural and interpersonal factors such as social support into account (Ward et al., 2001).

Literature further suggests that sojourner psychological adjustment takes the shape of a U-curve (Church, 1982; Lysgaard, 1955), where an initial short, up to 6-month, period of excitement (“honeymoon stage”) is followed by a 6-18-month phase characterized by adjustment difficulties (“culture shock/disillusionment stage”). Finally, after developing the skills to cope with these difficulties, sojourners, according to this model, reach a final stage of positive adjustment (“adaptation stage”) (Church, 1982; Ward et al., 2001). There has been evidence both in favor and against the U-curve hypothesis (Kealey, 1989; Ward & Kennedy, 1996). Ward et al. (2001) contend that the U-curve hypothesis has been applied frequently despite evidence against its accuracy, and conclude that its heuristic appeal has led researchers to adopt this model despite the controversy surrounding it. For example, Ward and Kennedy (1996) employed a longitudinal design by testing and interviewing Malaysian and Singaporean students at arrival, after 6 months, and after 12 months of their stay in New Zealand. The authors found that the students' adjustment followed a U-curve opposite of the one proposed by Lysgaard (1955). The authors

conclude that initial sojourner adjustment may be difficult, with improvement and variability over time (Ward & Kennedy, 1996; Ward et al., 2001). In sum, the evidence regarding a U-curve shaped model of sojourner adjustment, both socio-culturally and psychologically, is inconclusive, and additional research, in particular longitudinal studies, will be needed to develop a more comprehensive understanding.

Adjustment Literature on Spouses of International Students

Overview

A limited number of studies have investigated the specific adjustment issues experienced by spouses of international students, and none of them have explicitly examined acculturative stressors for this population (Chang, 2004; De Verthelyi, 1995; Shao, 2001; Schwarz & Kahne, 1993; Vogel, 1986). The majority of these studies are qualitative in nature and tap into major themes surrounding the experience of small samples of international student spouses, with no models or theories proposed for this subgroup of sojourners. However, some of these authors stressed the fact that spouses may share similarities with their partners when facing the cross-cultural transition along with their unique situation causing them to encounter unique difficulties. Church (1982), in his systematic overview of sojourner research, pointed to language difficulties, financial and academic concerns, social isolation and homesickness, adjustment to new cultural customs and norms, and for some, racial discrimination as the main adjustment-related difficulties for international students. In line with Church's (1982) compilation, literature on spouses' adjustment problems has highlighted similar and related issues faced by wives of international students (Chang, 2004; De Verthelyi, 1995; Shao, 2001; Schwarz & Kahne, 1993; Vogel, 1986). Additional challenges particular to spouses have been cited. These include the loss of professional identity, lack of a purposeful activity, exclusion from campus community, and

dependence on husband's academic success (Chang, 2004; Day, 2001; De Verthelyi, 1995; Schwartz & Kahne, 1993; Vogel, 1985).

Studies on Spouses of International Students

Vogel (1985) as well as Schwartz & Kahne (1993) highlighted the experiences of faculty and student wives at two universities in the northeastern U.S. Vogel (1985) outlined issues related to social isolation, communication difficulties, fear of strangers and racial discrimination among Japanese wives at Harvard University, based on discussion groups held for these women. Similarly, introducing a faculty and student wives' support program at M.I.T., Schwartz & Kahne (1993) discussed the women's sense of being an outsider on campus. The authors underscored that the wives' presence is not of importance to the university administrators and even though "these women are *in* the community, they are not *of it*" (p. 454). Further, Schwartz and colleague pointed to the unique adjustment issues the women face: "The majority of the problems of newcomers are related to being outsiders, having family responsibilities, being institutionally unconnected, having their status almost exclusively determined by their spouse's career commitments, and being both transients in the community and in transition in their own lives" (p. 453). Both articles make no distinction between faculty wives and student spouses, limiting the interpretation of their reports. It is noteworthy that among other factors that may differentiate faculty wives and spouses, international student families likely face additional financial difficulties during their sojourn.

De Verthelyi's (1995) qualitative study on international students' spouses' cross-cultural adjustment can be viewed as an initial, in-depth approach to explore the major characteristics and expectations of this population, while primarily investigating pre-arrival dimensions such as choice and decision-making, psychological preparedness and having a personal project for the sojourn, as well as early adjustment dimensions such as financial status, English proficiency and

social support. The author interviewed 49 spouses from 26 countries using semi-structured interviews. The research design is described as using “insider knowledge” (p. 391) and choosing a “naturalistic inquiry (...) to best unveil the nature, essences, characteristics, and meanings of phenomena as fully and completely as possible and within a particular context” (as cited in Leininger, 1992, p. 403). The results are presented as “non-overlapping” codes and verbatim quotes to illustrate the different themes that emerged (De Verthelyi, 1995, p. 392).

De Verthelyi (1995) observed initial adjustment difficulties for spouses including feelings of sadness, loneliness, self-doubt, confusion, and frustration. The author also discussed the spouses’ language difficulties, financial problems, and social isolation, including missing family and friends and feeling guilty for living abroad. The author further points to the spouses’ gender role orientation and in particular work and family significance influencing the degree of culture shock: “The degree of acceptance, or rejection, of the more traditional role as a homemaker (and mother) during the stay was the most important variable affecting the psychological well-being of the spouses” (p. 404). De Verthelyi also states that a large proportion of interviewed spouses showed great resiliency in overcoming initial adjustment problems, usually within a time span of 3-6 months. Further, since spouses’ sojourns often do not have specific tasks outlined for them, personal satisfaction with the stay depended on the wives’ achievement of goals in relation to a personal project and the degree of flexibility in finding alternative solutions. Drawing from her sample, the author cautions that “there is (...) no such thing as *the* foreign student’s spouse,” since “spouses’ needs and expectations, as well as projects for the sojourn are very dissimilar and not prescribed by the role itself” (p. 403). She states that personal variables over situational factors appear to influence the well-being of the spouses and their adjustment to the host culture. And finally, the author concludes that “experiencing psychological well-being resulted from the

perception of increased functional fitness and autonomy in dealing with the host culture as well as from finding *a role of her own* which conveyed meaning to the sojourn” (p. 404-405). Overall, while the De Verthelyi’s study (1995) provides an extensive examination of potential factors impacting spouses’ adjustment, her qualitative work is not based on a specified theoretical foundation, nor does she propose theories in relation to spouses’ adjustment.

In her qualitative dissertation, Day (2003) studied the experience of spouses of international students and postdoctoral fellows along a variety of dimensions, among them language, preparation for sojourn, cultural differences, identity, and perceived changes in themselves and their husbands’ education. Day investigated the experience of two groups of 10 foreign wives who had been living in the New Jersey area for the duration of 6 months to 18 months. The first group (with limited English fluency) provided written answers to a questionnaire and the second group participated in interviews. Ahead of her analysis, the author further divided the participants into “culturally near” and “culturally distant” groups, based on the country of origin and extant literature about cultural differences between the U.S. and the participants’ countries of origin. Apart from this distinction, no method of analysis is provided, and the author provides verbatim responses under either the “culturally near” or “culturally distant” division, with the following topic headings: expectations of the U.S. and preparations for change, aspects of identity, attitudes toward women at home and in the U.S., perception of wife-changes/perception of husband-changes, response to the U.S. and vice versa, perception of the U.S.’s place in the world, attitudes toward foreigners and racism, and the U.S.’s ability to change attitudes toward foreign students’ wives. The interpretations to be drawn from this study are limited based on the lack of a rationale as to how these particular themes were chosen and/or if they were derived directly from the data.

In a qualitative study on Chinese wives' perceptions of their life in the U.S. during the period of their husbands' doctoral study, Shao (2001) describes issues related to the spouses' expectations before arrival, language barriers, financial considerations, redefinition of goals, career changes, marital satisfaction, and effect of separation before reunion. The author interviewed five wives of doctoral students in the United States, employing semi-structured, in-depth interviews. Interviews were conducted in Chinese and then translated. In her attempt to describe the adaptation process of the five women, the author emphasized the positive effect of spouses ultimately attending school in the United States with the result of smoother functioning of their marriage. Further, the author underlined the negative impact that the dependent role of the spouses had in relation to their career aspirations. Limiting the interpretability of her study, Shao (2001) does not provide a rationale for either the composition of her interview questions or her data analysis.

In contrast to interviewing individual spouses, Chang (2004) focused on marital relationships of four Taiwanese student couples. In-depth interviews conducted with both partners provided information about how the couples made sense of their experiences and the strategies they employed in dealing with their cross-cultural situation. Using a narrative analyses method, Chang (2004) identified psychosocial and acculturation impacts on the marital relationships of the couples. Several themes emerged as part of the psychological effects (psychosocial impacts): change of lifestyle; sense of emptiness; anxiety, and insecurity; independence from home families; lack of social resources; and spending more quality time with their significant other. Level of acculturation was seen as a positive force on the marital relationship when both spouses were at the same level. In case of discrepancy, however, acculturation caused conflict and decreased marital satisfaction among the couple (Chang, 2004).

In summary, the aforementioned studies provide a broad yet inconclusive overview of the experience of spouses of international students. With the exception of Chang's (2004) research, none of the qualitative approaches followed an explicitly stated methodological paradigm. Similarly, the authors did not provide a rationale for the construction of interview questions, data analyses, or an audit trail. While these studies do not propose potential theories on the range and possible impact of stressors experienced by spouses during their sojourn, they nevertheless provide potential topics and themes, which in turn build the foundation for this study.

Potential Stressors Faced by Spouses of International Students

Topics selected for this investigation are based on commonalities encountered in previous qualitative work. These include overcoming language barriers, financial concerns, adjusting to culturally different norms, ethnic discrimination, and homesickness/loneliness, stress associated with husband's academic progress along with the career and role change spouses face when accompanying their husbands abroad. Similarly, attention will be given to the importance of social support systems and the marital relationship. An examination of previous literature on spouses of international students attempted to identify salient variables related to the psychological adjustment of spouses of international students. Included are acculturative stress, language, financial difficulties, satisfaction with husband's academic progress, and spouses' career-homemaker role conflict. Social support and marital satisfaction were further included as important contributors to spousal well-being.

Acculturative stress

Numerous studies have suggested that adaptation to a host culture can be difficult and stressful (Choi, 1997; Lee et al., 2004; Mori, 2000; Sandhu & Asrabadi, 1994; Yang and Clum, 1994; Yeh & Inoseh, 2003). Cultural contact literature describes cross-cultural encounters as significant life events of stressful proportions (e.g., Mori, 2000; Sandhu & Asrabadi, 1994; Yang

& Clum, 1995). Stress evoked by a cultural transition is commonly referred to as *acculturative stress* (Sandhu & Asrabadi, 1994). In his review of literature of 30 years of studies on cultural adaptation of sojourners, Church (1982) described international students facing potential stressors such as “language difficulties, financial problems, adjusting to a new educational system, homesickness, adjusting to social customs and norms, and for some students, racial discrimination” (p. 544). Empirical evidence shows that cross-cultural interaction, which calls for people to function in unfamiliar physical and social environments, is potentially very stressful and may cause individuals to experience outcomes that can range from mild distress to severe maladaptive symptoms (Mori, 2000).

A relationship between acculturative stress and psychological distress has been repeatedly established across different groups within international student populations. Research on acculturative stress has shown that a relationship between stress and mental health symptoms exists, particularly in the form of depressive symptoms. Acculturative stress has shown to be positively related to depression in a sample of African, Asian, and Latin American international students (Constantine et al., 2004), Taiwanese international students (Ying & Han, 2006), Korean international students (Lee et al., 2004), and Asian international students (Yang & Clum, 1995). For individuals from cultures other than the United States, and in particular for Asian students, somatic symptoms may be of particular importance in relation to acculturative stress (Lee et al., 2004; Mori, 2000). Lee and colleagues (2003) pointed out that Asian international students appear to evidence physical symptoms rather than express their psychological distress in the form of anxiety or depression (see also Lin & Yi, 1997; Mori, 2000; Yoon & Portman, 2004).

Further, whereas academic demands and a change of social environment are encountered by U.S. and international students alike, the transition may be more challenging for international

families because it occurs in the context of cross-cultural adjustment (Furnham & Bochner, 1986; Sandhu & Asrabadi, 1994). International students, along with their spouses, often lack personal resources, such as a larger social network, when they arrive in the United States and consequently experience greater difficulty acculturating than established ethnic minority immigrants (Berry & Kim, 1988; Hayes & Lin, 1994). In addition, international students and their family members may also refuse to seek proper psychological assistance due to cultural differences in their views on the helpfulness of counseling and mental health services (Bradley, 2000; Mori, 2000; Pedersen, 1991).

Language fluency

Numerous authors have pointed to the essential role that language competence plays in intercultural communication, with host language skills counting as a crucial tool for satisfying everyday needs (Kim, 1988; Mori, 2000). Further, fluency in the host culture's language has shown to be strongly linked to positive cross-cultural adjustment in international student samples (Lin & Yin, 1997; Mori, 2000; Poyrazli et al., 2001; Yang, Noels, & Saumure, 2005; Yeh & Inoseh, 2002). International students' academic progress and success is largely dependent on their mastery of the English language, with pre-arrival tests (TOEFL) and post-arrival programs in place in order to guarantee satisfactory language comprehension and fluency for the purpose of completing academic degrees and involvement in research and teaching (Koyama, 2005).

Relatedly, in a sample of Mexican immigrant women, Snyder (1987) found a positive relationship between depressive symptomatology and lack of verbal proficiency in English. Successful integration upon immigration to the United States, including professional advancement, may be dependent on English language skills, and the lack thereof may thus impede positive adjustment.

Spouses, in contrast to their international student partners, are not expected to have sufficient English language skills upon arrival, and it is up to the individual to evaluate and increase their language competencies. De Verthelyi (1995) noted that while many of the interviewed women regarded their stay in the U.S. as an opportunity to learn English, few were prepared for the level of impediment they faced due to their limited language skills. As a result, spouses experienced “resentment at the loss of autonomy” (p. 399) and a lack of being able to express themselves fully and adequately other than to co-nationals (De Verthelyi, 1995).

Financial concerns

Financial difficulties are one of the key stressors for international students (Koyama, 2005; Mori, 2000; Yang & Clum, 1995). According to the Open Doors report, 66% of F-1 students receive financial support from family and personal savings (IIE, 2005). As part of their visa requirements, international students have to be enrolled full-time every semester, and they are not permitted to find employment in the U.S. labor market although some exceptions are allowed (e.g., on-campus jobs, on- and off-campus internships). For students without paid teaching or research assistantships, costly out-of-state tuition can impose a substantial financial burden. In addition, financial aid and scholarships are often only available for American citizens and permanent U.S. residents. Students' assets may also be dependent on the current exchange rate between the U.S. dollar and their home currency (Koyama, 1995).

As for spouses, F-2 visa holders are not permitted to work and study and are thus unable to financially contribute to the household income, unless they resort to illegal means to boost the household budget such as by providing services as housekeepers and baby-sitters, as reported in De Verthelyi's study (1995). Similarly, couples whose partners both worked full-time in their home country, are forced to rely on a one-person income in the U.S., and are potentially facing a downgrade of their socio-economic status upon arrival. In comparison, J-2 visa holders are

allowed to seek employment authorization, but only if the employment does not have the potential to financially support the primary visa holder (U.S. Department of State, 2006).

Naturally, in a family with children, financial difficulties may multiply. De Verthelyi (1995) reported spouses' perception of financial status as a complex comparison of pre-arrival expectations, former and current lifestyle, and future prospects.

Stress related to husband's academic progress

Student sojourner's acculturation stress has often been related to the extent to which they are academically successful (Church, 1982; Misra et al., 2003). Academic performance relates directly to the student's overall academic progress in the program and consequently length of stay; the extent to which fellowship, scholarships, and assistantships can be secured and maintained; as well as possible spill-over effects from academic strain into the relationship (Chang, 1994). As prescribed by their visa status, spouses are equally dependent on their partner's academic performance. Most authors on spousal adjustment point to the dependence on the husband's academic career experienced by accompanying spouses. For example, Lo (1993) and Shao (2001) point to the drastic career changes wives in their studies had undergone. Shao (2001) states that her interviewees were highly educated women who, upon arrival in the U.S., faced uncertain and temporarily replaced career goals, which were largely redefined by the educational aspirations of their husbands. In turn, these women experienced hypervigilance toward their husband's academic performance, often causing "grief and resentment" (p. 17).

Occupational and homemaker role reward value

Arriving in the United States with an F-2 or a J-2 visa implies serious restrictions upon a spouse's career path. In her account of the spouses' experience while sojourning in the U.S., Day (2003) mentions themes such as joblessness and the difference between a woman's home identities and distinct foreign identities. Day concludes in her analysis that during their stay in

the U.S., the “women’s identity . . . is that of a wife” (p. 92). Despite her citation of a few exceptions of women who found work in the U.S., the majority of the interviewees had jobs before they embarked on the sojourn and experienced a change in that status by moving to the U.S. Furnham and Bocher (1986) also argue that “in migrant families, it is the non-working mothers who adjust the least well.”

Similarly, Chang (2004) describes the experience of three of four spouses who had careers and were financially independent in their home country; however, in order to move with their husbands, they quit their professions and assumed financial dependence on their partners and parent-in-laws. According to Chang (2004), “not content with being a stay-at-home housewife, they all made efforts trying to find a focus in their lives in the United States, and all had different strategies” (p. 234). De Verthelyi (1995) further states that “for the majority, arriving in the United States on a visa with work restrictions meant changing from an active professional life in the public sphere to a more traditional feminine role as a homemaker” (p. 398). She further states that some spouses adapted to this situation easily, while for others the loss of their professional identity was very difficult.

Stress Buffers

Social support

In general, social support has been established as a buffer in the link between stressors and stress outcome (Thoits, 1995). Social support systems for sojourners may arise from a variety of sources, including ties with overseas family and friends, accompanying spouses and family, members of the dominant or host culture, members of the international community, and co-nationals (Ward et al., 2001). The effect of social support has been recognized as a crucial component in dealing with acculturative stress, and it is one of the most prominently researched variables in relation to the acculturative process. Studies have primarily focused on international

students, expatriate social support systems, and immigrant women, and have largely established the concept of social support as a buffer against stress and a positive correlate of emotional well-being (Copeland & Norell, 2002; Lee et al., 2003; Misra et al., 2003; Poyrazli et al., 2004; Ward, et al., 2001).

Accordingly, authors have pointed to the lack of social support as one of the biggest challenges experienced by student sojourners (Hayes & Lin, 1994; Pedersen, 1991). During cross-cultural transitions, the role of social support is particularly highlighted due to the fact that established networks become long-distance and disrupted, and new ones are yet to be formed. These changes can be especially challenging for spouses due to “competing family responsibilities, social isolation, sociopolitical constraints, and changes in their social and/or work status” (Copeland & Norell, 2002, p. 256). In Chang’s (2004) study, interviewees reported dissatisfaction with the quality of friendships with co-nationals they had formed, with one spouse reporting to have become pregnant “in order to have some focus in her life here” (p. 235). The author further observed that the lack of social obligations led to a stronger bond between husband and wife, with spouses serving as their primary source of emotional support (Chang, 2004). Similarly, De Verthelyi (1995), Schwartz & Kahne (1993) and Vogel (1986) equally noted the numerous challenges associated with social isolation that spouses of international students are faced with during their sojourn.

In addition, expatriate literature points to the importance of social networks for accompanying spouses. For example, Copeland & Nevell (2002) showed that women with higher adjustment were in more cohesive families, participated in the decision to relocate, perceived less of a decrease in friendship networks, and had more functions of social support satisfactorily met. Finally, they received more of their support from local rather than long-distance providers

(Copeland & Nevell, 2002). Some of these results mirror studies with international students, which examined the relative merit of co-national versus host national support. Surdam and Collins (1984), for example, described that student sojourners' nearly exclusive socialization with other international students was associated with poorer adjustment outcomes. Research also points to the fact that developing social relationships with host nationals appears to assist in the adjustment process (Abe, Talbot, and Geelhoed, 1998; Poyrazli et al., 2004).

Extending the concept of social support to include computer-mediated communication technology, recent studies have begun to examine the role of online tools for international students and their spouses during their cross-cultural transition (Bennett, 2002; Cemalcilar, Falbo, & Stapleton, 2005). Studies on the use of the Internet have shown that cybercommunication is often a tool to uphold a remote social network and remain in touch with friends and family (Kraut et al., 1998). According to the model of Cemilcilar et al. (2005) model, the maintenance of contact has a positive effect on the international students' home identity and perceived social support, which in turn contribute to the adaptation to the new culture. Similarly, Bennett (2002) examined the effect of electronic communication on culture shock of spouses of international students. Results indicated that spouses' well-being improved over time and the author reported significant findings for phone, web phone, chat, and email use predicting culture shock (Bennett, 2002).

Notably, a study with married Mexican immigrant women found a strong positive relationship between women's acculturative stress and depressive symptomatology, whereas, three single item-responses tapping into the women's perceived overall social support (emotional, economical, and practical) were not related to either acculturative stress or depressive symptomatology (Snyder, 1987). One item, women's perceived support from their

spouse, was inversely related to depressive symptomatology. Thus, social support received from individuals other than within the married relationship did not predict psychological adjustment, whereas perceived support from the marital partner did.

Marital satisfaction

Marriage was shown to serve as a buffer during stressful cultural adjustment, with the marital relationship seen as being one of the most important sources of support for a couple sojourning abroad (Fowler & Silberstein, 1989; Snyder, 1987). In a qualitative study with four Taiwanese couples, Chang (2004) observed a positive impact on the marital relationship brought forth by the change of lifestyle the interviewees experience by moving to the U.S. These couples reported spending more time together than they would have in Taiwan, where different types of social and family obligations exist, and they unanimously reported an increase in overall marital satisfaction (Chang, 2004). Shao (2001), on the other hand, found that spouses experienced tension in their marital relationships due to academic and other adjustment problems. The author also named long periods of separation before reunion as resulting in marital conflicts (Shao, 2001). Similarly, De Verthelyi (1995) observed that out of 49 spouses in her sample, only 16 arrived together with their husbands. Simultaneous arrival was associated with joint decision-making and mutual emotional support. Prolonged separation, in contrast, resulted in asymmetrical relationships with the husband, who consequently assumed the role of translator and guide upon the spouse's arrival. In turn, the asymmetry and ensuing dependency impacted these spouses well-being and had to be negotiated, with some spouses endorsing the dependency and others suffering from conflict and misunderstanding as a result (De Verthelyi, 1995).

With the exception of Chang (2004), no studies examining the marital relationships and marital satisfaction of international students exist. An empirical study by Sweatman (1999), however, examined the relationship of marital satisfaction and psychological symptoms of a

sample of missionaries during cross-cultural adjustment, as assessed by the Relationship Assessment Scale (RAS; Hendrick, 1988) and the Beck Depression Inventory (BDI; Derogatis & Melisartos, 1983). While no relationship was found between marital satisfaction and anxiety, a significant relationship between marital satisfaction and depression was detected, with lower levels of marital satisfaction related to higher levels of depression and vice versa. Post-hoc analyses further revealed that the marital satisfaction subscale of “time spent together” most strongly predicted depression scores, followed by affective communication and finances. The author argues that quality of marriage appears to have a buffering effect on stress (Sweatman, 1999).

Summary

In conclusion, spouses of international students face a unique set of challenges based on their visa status. While they potentially share some of the adjustment problems and concerns experienced by their husband counterparts and international students in general, they also encounter challenges particular to their role as F-2/J-2 dependents. This study will examine the extent to which acculturative stress, language and financial difficulties, stress related to husband’s academic progress and occupational and homemaker role reward value contribute to spouses’ psychological adjustment. In turn, social support and marital satisfaction will be explored as potential moderators in the link between stressors and psychological distress.

Primary Hypotheses

Acculturative Stress will be significantly positively related to psychological distress.
Higher levels of acculturative stress will likely be related to higher psychological maladjustment (Constantine et al. 2004; Lee et al., 2004; Snyder, 1987; Yang & Clum, 1995; Ying & Han, 2006).

Social Support will have a moderating effect on the acculturative stress and psychological distress relationship. Social support has shown to be a moderator in the link between stressor and stress symptoms (Copeland & Norell, 2002; Jou & Foukada, 1997; Lee et al., 2004). It will thus have a buffering effect on the relationship between acculturative stress and psychological distress.

Marital Satisfaction will have a moderating effect on the relationship between acculturative stress and psychological distress. Marital satisfaction was shown to be a buffer between stress and depression (Sweatman, 1999). Thus, marital satisfaction will be moderating the effects of acculturative stress on psychological adjustment.

Secondary Hypotheses

English Language Fluency will be significantly negatively related to psychological distress. Lower English fluency has been found to be associated with greater levels of acculturative stress and increased depressive symptomatology (Nwadiora & McAdoo, 1996; Poyrazli et al., 2001; Snyder, 1987; Yang et al., 2005). Therefore, higher English fluency will also likely be related to lower levels of psychological distress.

Financial Concerns will be significantly positively related to psychological distress. Financial concerns have shown to be positively related to overall life stress (Misra et al., 2003). Therefore, higher levels of financial concerns will also likely be related to higher levels of psychological distress.

Stress related to husband's academic progress will be significantly positively related to psychological distress. Shao (2001) noted spouses' experience of grief and resentment due to hypervigilance toward their husband's academic performance. Therefore, higher levels of stress related to husband's academic progress will likely be related to higher levels of psychological distress.

Number of goals for the sojourn will be related to higher levels of marital satisfaction, lower levels of acculturative stress and lower levels of psychological distress. Is the presence of a clearly announced goal associated with lower levels of psychological distress and lower levels of acculturative stress? Based on De Verthelyi's (1995) report, personal satisfaction with the stay and personal well-being depended on the wives' creation of a personal project in relation to their sojourn.

Exploratory Research Questions

A number of exploratory research questions will be examined. Due to the lack of previous research, no directional hypotheses will be put forth:

Is simultaneous versus separate arrival associated with level of marital satisfaction and acculturative stress?

Is type of decision-making (husband, joint) regarding the sojourn abroad associated with marital satisfaction and psychological adjustment?

Is the presence of spouses' program associated with higher levels of perceived social support, lower levels of acculturative stress and lower levels of psychological distress?

What is the level and direction of the relationship between occupational role reward value, homemaker role reward value and psychological distress?

If a significant moderating effect is detected for social support in the link between acculturative stress and psychological distress, do levels of socio-emotional versus instrumental social support differ in relation to their moderating effect?

Is there a moderating effect of social support and marital satisfaction in the link between English language, financial difficulty, and stress related to husband's academic progress, and psychological adjustment?

CHAPTER 3

METHOD

Participants

Participants included 142 female spouses of international students sojourning in the United States. Eight outliers were eliminated from the sample during the analysis stage of the project (see results section for explanation). Participants were solicited by a combination of email, letters, and flyers sent to international student organizations and spouses' programs. Reminder emails were sent 2 weeks after making first contact with the offices (see Appendices J-M). Data collection took place between February and May 2007. In an effort to maximize participation in this study, organizations and programs at universities with the largest number of international students were targeted for potential participation (IIE, 2005). A total of 45 universities in 21 U.S. states were included. Geographic distribution covered four major regional areas of the United States, including West, Southeast, Northeast, and Midwest. International student administrative offices, housing offices, and English language programs at these institutions were asked to forward an email message to spouses of international students, either indirectly via international student listserv or directly to addresses of spouses of international students. The letter of solicitation contained an online link to the survey, which took approximately 20-30 minutes to complete. The link first led participants to the informed consent form (see Appendix B). They were told that their participation was voluntary and that they would not receive compensation for taking the survey.

Because the exact number of international student spouses was not known, and the survey link could have been forwarded to other groups of international students spouses, as well, it is impossible to determine the representativeness of the sample vis-a-vis the larger population. This is a common qualification associated with Internet-based survey research. Internet recruitment,

however, has shown to have the benefit of providing access to samples beyond the reach of traditional methods in psychological research and allowed solicitation of a greater number of individuals who identify as “spouses of international students” across the United States as opposed to a limited geographical area, resulting in a larger and more diverse sample (Gosling, Vazire, Srivastava, & John, 2004). Based on the fact that sampling did not occur at random, Box’s M tests were conducted in order to determine the potential effects of university size, university type, and region of residence on the main dependent variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress. Significant results indicate heterogeneity of covariance matrices across groups. Box’s M tests revealed no significant differences among groups of spouses for main variables examined in this study.

134 participants identified as “spouses of international students.” Their ages ranged from 18 – 41 ($M = 29.46$, $SD = 4.19$). Participants originated from a total of 48 countries. Top countries of origin were China (15%), India (9%), Brazil (8%), and Japan (5%), followed by Canada, Chile, Israel, Poland, and South Korea (each 3%). 60.4% of spouses indicated that their visa status was F-2, 30.8% indicated a J-2 visa status, and 6.8% described their visa status as “other.” Region of origin was listed as Asian (40.3%), South American (24.6%), European (20.1%), Middle Eastern (6%), North American (3%), African (2.2%), and Australian (2.2%). 71.6% of spouses who responded to the survey indicated that they had no children, and 28.4% of respondents noted that they had one child or more. 50% of the spouses who took the survey stated that they had arrived “simultaneously” with their husbands, whereas 50% noted that they had arrived “separately” from their husbands. 14.9% of spouses indicated that they had been in the United States less than 6 months, 31.3% between 7-18 months, 22.4% between 19-30 months, and 28.4% for more than 30 months. 69.4% of the participants specified that they had

made the decision to come to the United States “together with their husbands,” 20.1% responded that “their husband had made the decision because it was important for his career,” and 10.4% responded in the category of “other.” Similarly, 55.2% of spouses noted that moving to the U.S. for them was “desirable,” 9.7% indicated the move was “undesirable,” and 32.8% of spouses chose “hard to say.” 79.9% of the spouses who took the survey indicated that they had a job or career before moving to the United States, whereas 17.9% stated that did not pursue a career or job before the transition (no response: 2.2%). Similarly, 12.7% of spouses had worked less than 1 year in their job before the move, 25.4% had worked 1-3 years, 20.9% 3-5 years, and 23.9% more than 5 years. 17.2% did not respond as to the number of years they had worked before moving to the U.S. 2.2% of spouses indicated that they had previously obtained a PhD, 41.8% of respondents noted that they hold a master’s degree, 46.3% had graduated from college, 6% had taken some college courses, and 2.2% had either completed high school or taken high school classes.

Further, 47.0% of spouses’ partners studied at a private university, whereas 50% of spouses’ husbands received training at a state-funded university. 3% of spouses did not provide information as to the type of university their husband was attending. Sizes of partner’s universities were noted as below 10,000 (16.4%), 10-20,000 (23.9%), 20-30,000 (17.9%), 30-40,000 (20.9%), and above 40,000 (8.2%). Husband’s main areas of study were Physical and Life Science (33.6%), Engineering (20.9%), Business and Management (16.4%), Social Sciences (11.9%), Math and Computer Science (7.5%), and Other (9.7%). Region of residence in the U.S. were West (9.7%), Midwest (26.1), Southeast (24.6), and Northeast (37.3%).

Finally, participants responded as to how “easy” or “hard” it was to understand the English language in the survey. Scores ranged from 1 to 10 (1 = easy; 10 = hard). Breakdown of

responses was as follows: 54.5% (1), 20.9% (2), 6.8% (3), 3% (4), 1.5% (5), 4.5% (6), 4.5% (7), 1.5% (8), 0.7% (9), 0.7% (10). These numbers have to be interpreted with caution, however. No data was collected as to the number of respondents who failed to complete the survey. It is possible that respondents with insufficient English proficiency may have not completed the survey, which in turn may have bias the results (see also limitations in discussion section).

Instruments

Participants completed a demographic questionnaire, measures of acculturative stress, English fluency, financial concern, stress related to husband's academic progress, occupational/homemaker role reward value, social support, marital satisfaction, and psychological adjustment.

Demographic Questionnaire

Participants were asked to complete a demographic questionnaire in which they identified the following demographic variables: age, gender, legal home country, ethnicity/race, U.S. state they currently live in, visa type, native language(s), highest level of education, month/year of marriage, arrival date, husband's arrival date, and number of children living in the U.S. A number of additional, exploratory questions were posed as well (see Appendix A). Items addressed areas such as the decision to come to the U.S., desirability of the move, career/job experience before moving to the U.S., services for spouses provided by husband's university, personal goals during stay in the U.S., husband's area of study, type of university, and university size. Spouses further indicated their perceived ease or difficulty in taking the survey based on their level of English language proficiency.

Acculturative Stress

The Acculturative Stress Scale for International Students (ASSIS) was developed to measure intrapersonal acculturative stress of international students (Sandhu & Asrabadi, 1994).

The ASSIS consists of 36 items scored on a 7-point Likert scale (1=Strongly disagree to 7=Strongly agree). Sandhu and Asrabadi (1994) extracted six factors and one nonspecific factor using a principal components analysis, accounting for 70.6% of the total explained variance in their survey research. The seven factors are Perceived Discrimination (38.30% of variance), Homesickness (9.0%), Perceived Hate (7.20%), Fear (6.10%), Stress due to change/cultural shock (3.70%), Guilt (3.20%), and Nonspecific (3.10%). It has been reported that ASSIS has internal consistency scores ranging from .87 to .95 for total items measured by Cronbach's alpha (Sandhu & Asrabadi, 1994; Sandhu & Asrabadi, 1998; Yeh & Inose, 2003). The ASSIS scale has been used in a limited number of studies on acculturative stress; thus psychometric data is limited. In previous studies, however, ASSIS scores were correlated in expected directions with independent measures of English fluency, depression, and social support (Constantine et al., 2004; Ye, 2005; Yeh & Inoseh, 2003). For the current study, the internal consistency reliability (Cronbach's alpha) of the ASSIS scale was .93. Previous research using the ASSIS with populations other than international students included Korean immigrants (Oh, Koeske, & Sales, 2002); however, internal consistency reliability data remained unreported.

This instrument was chosen by the researcher since it taps into the main themes of cross-cultural adjustment difficulties experienced by spouses of international students as reported in qualitative surveys on this population (De Verthelyi, 1995; Schwartz & Kahne, 2003; Vogel, 1986). Sandhu and Asrabadi (1994) encourage the use of the scale's total score with higher scores indicating greater acculturative stress perceived by the respondents. The authors further suggest the employment of subscale scores when researchers are investigating specific sources of acculturative stress. For the purpose of this study, the global score was used.

English Fluency

Self-reported English Fluency was measured by using a combined score from the following three questions, which were rated on a 5-point, Likert scale:

What is your current level of fluency in English?

How comfortable do you feel communicating in English?

How often do you communicate in English?

Scores on these measures range from 3 to 15, and higher scores are associated with greater English language fluency. Answers range from “poor” to “very good.” Similar methods of assessing English language fluency have been reported previously in the literature (Barratt & Huba, 1994; Constantine et al., 2004; Sodowsky & Plake, 1992; Yeh & Inoseh, 2003). Reported Cronbach’s alpha using this 3-item scale ranged from .78 to .84. Cronbach’s alpha for the current sample was .90.

Financial Concerns

Financial Concerns was explored by using an adapted subscale from the Index of Life Stress measure (ILS; Yang & Clum, 1994). The ILS 31-item instrument was originally designed to assess the level of stressful live events for Asian international students. Subscales include financial concerns, language difficulty, perceived discrimination, cultural adjustment, and academic pressure. Subscales for these five dimensions have 5 to 8 items. Participants rate the items on a 4-point Likert scale ranging from 1 (never) to 4 (always). This instrument has been employed by researchers with various international students’ samples and demonstrated satisfactory psychometric properties, e.g., with Taiwanese students (Chao, 1999), African, Asian, and Middle Eastern international students (Misra et al., 2003). Construct and concurrent validity for the overall measure has been reported and was satisfactory (Yang and Clum, 1994). Yang and Clum (1994) also reported a 1-month test-retest reliability of .87. Internal consistency

estimates (Kuder-Richardson [KR]=20) for the five factors were good, with .80 for financial concern (Yang & Clum 1994). While the ILS measure has an overall academic focus, the adapted financial dimension taps into financial concerns of international students in general.

For the purpose of the current study, the adapted scale's three items was scored on a 4-point Likert scale ranging from 1 (never) to 4 (always), with a higher score representing higher financial concern. Spouses were asked to select the response that best described their situation. Original sample items, such as "I worry about my financial situation," were reworded to "I worry about our financial situation" or "my financial situation influences my academic study" was changed to "our financial situation influences my husband's academic study." Scores ranged from 3 to 12. Coefficient alpha was .81 in the current study.

Stress Related to Husband's Academic Progress

Stress Related to Husband's Academic Progress was explored by using an adapted Academic Pressure subscale of the Index of Life Stress measure (ILS; Yang & Clum, 1994) (see above). This subscale of the ILS was originally designed to measure self-reported academic stress experienced by international students. The items have been reworded in order to tap into spouse-reported stress related to husband's academic progress. For example, "I worry about my academic performance" was reworded to "I worry about my husband's academic performance," or "I am not doing as well as I want to in school" was reworded to "My husband is not doing as well as I want him to do in school." Yang & Clum (1994) reported internal consistency estimates (Kuder-Richardson [KR]=20) of .75 for the academic pressure subscale. In the current study, Cronbach's alpha was .56.

Occupational and Homemaker Role Reward Value

Occupational and Homemaker Role Reward Value was assessed by using the two subscales of Life Role Salience Scales (LRSS; Amatea, Cross, Clark, & Bobby, 1986). The

LRSS is a 40-item measure designed to assess personal expectations concerning occupational, marital, parental, and homecare roles.

The Occupational Role Reward Value Scale and the Homecare Role Reward Value Scale consist of five statements each, indicating a high personal value that the individual assigns to involvement in an occupational or homecare role. Participants respond on a five-point Likert scale (1 = “disagree” and 5 = “agree”), how much they agree with the statements (e.g., “having a career/job that is interesting and exciting to me is my most important goal,” and “it is important to me to have a home of which I can be proud of”). Scores for each subscale range from 5 to 25, with a higher score indicating higher personal value assigned to that role. Internal consistency estimates for the scales were reported by the authors at .86 for the Occupational Role Reward Value, and at .82 for the Homecare Role Reward value. Test-retest reliability for the total scale was .75 (Amatea et al., 1986). College student and working adult populations participated in the validity and reliability studies for the LRSS (Amatea et al., 1986). In the current study, coefficient alphas for the two subscales were calculated. Cronbach’s alpha for Occupational Role Reward Value was .72, and .82 for Homecare Role Reward Value, respectively.

Social Support

The Index of Sojourner Social Support (ISSS; Ong & Ward, 2005) was developed to measure the availability of social support along two distinct factors, socio-emotional and instrumental support. The scale consists of 18 items: 9 items comprising the socio-emotional support and 9 items comprising instrumental support. Respondents indicate whether there are persons (no one, someone, a few, several, many) who would provide a range of supportive behaviors. Overall scores range from 18 (low perceived social support) to 90 (high perceived social support). Research with samples of student and adult sojourner samples in Singapore and New Zealand showed the ISSS to possess adequate and stable construct validity and scale

reliability, with a reported internal consistency score of .95. In the current study, Cronbach's alpha was .96 for the overall scale, with .94 for the socio-emotional support subscale and .95 for the instrumental support subscale.

Marital Satisfaction

The Relationship Assessment Scale (RAS; Hendrick, 1988) is a 7-item scale designed to serve as a brief, generic self-report measure of relationship satisfaction. Participants answer item questions (e.g., "How well does your partner meet your needs?") on a 5-point rating scale. Following rekeying of reverse-scored items, ratings are summed to produce a total satisfaction score. Hendrick (1988) reported a Cronbach alpha coefficient of .86 for RAS scores in an undergraduate sample, and that RAS scores were correlated in expected directions with independent measures of love attitudes, intimate self-disclosure, dyadic adjustment, and relationship commitment. In the present study, the RAS produced a Cronbach alpha coefficient of .88.

Psychological Distress

The Brief Symptoms Inventory (BSI; Derogatis & Melisartos, 1983) was employed to examine the psychological distress of spouses of international students. The BSI consists of 53 items covering nine dimensions (e.g., anxiety, depression, and somatization). Participants rated how much they had been bothered by each symptom over the past 2 months from 1 (not at all) to 5 (extremely). Examples of symptoms included "nervousness or shakiness inside," "poor appetite," and "feeling fearful."

The composition of the total measure was modified by excluding three items that make up the psychoticism scale. These psychoticism items had been removed by researchers in the past because they were thought to be potentially distracting for a non-clinical sample or presumed unsuitable for use with immigrant groups (Aroian, Patsdaughter, Levin, & Ganan, 1995). Lee et

al. (2004) reported an overall internal consistency score of .96 after removing the three psychoticism items. For the BSI, Derogatis and Melisartos (1983) reported test-retest reliabilities ranging from .68 for the somatization dimension to .91 for phobic anxiety. Alpha coefficients ranged from .71 for Psychoticism to .85 for depression. Derogatis and Melisartos (1983) also reported evidence for the predictive and construct validity of the instrument. Further, Arojan et al. (1995) examined the internal consistency reliability of the BSI with Polish and Filipino immigrants and concluded that the BSI demonstrated reliable and valid cross-cultural measure of psychological distress. In the present study, the overall score was used to assess psychological distress. Cronbach's alpha for the current study was .97.

In addition to utilizing the overall score of the BSI for data analyses, The Global Severity Index (GSI) for the current sample was determined. The GSI is calculated by using the sums for the nine symptom dimensions of the scale plus four additional items not included in the dimension scores, divided by the total number of items that an individual responded to. The three psychoticism items were not included in the present calculation. GSI scores in the current sample ranged from 0.84 to 3.40 ($M = 1.75$, $SD = .59$).

Additional Measures

Additional measures for analyses included: number of goals, simultaneous versus separate arrival, decision-making, and presence of spouses program. These measures were assessed as follows.

Number of Goals for the Sojourn

Number of goals for the sojourn was assessed by asking participants to generate goals for their sojourn in addition to selecting from a list of presented goals. The list of presented goals included (see Appendix A, Demographic Questionnaire): Raising Children, Learning English,

Making Friends, Going to University, Traveling, and Finding a Job. The total number of selected and/or self-generated goals comprised the number of goals for the sojourn.

Simultaneous versus Separate Arrival

As part of the Demographic Questionnaire, participants indicated the time of their arrival in the U.S (see Appendix A). In addition, participants were asked to state the time of their husband's arrival in the U.S. Simultaneous versus separate arrival was determined by comparing arrival dates. If arrival dates were more than one month apart, they were coded as “separate arrival.” According to literature on sojourning spouses, simultaneous arrival may contribute to “sharing from the start the impact of uncertainty and cultural differences as well as the initial exploration of the options provided by the host environment. It allowed for joint decision-making about where to live, how to furnish the apartment, which car to buy, etc. and most importantly, it established the basis for mutual emotional support” (De Verthelyi, 1995).

Decision-Making about Sojourn

Participants were asked as to “how they decided to come to the U.S.?” Choices were 1) “my husband and I made the decision together,” and 2) “my husband made the decision because it was important for his career.” In addition, participants could select an “other” option, which provided them with the opportunity to type an individualized response to the question.

Presence of Spouses Programs

The presence and number of spouses programs was assessed by selecting options from a list of possible spouse-related programs provided by husbands’ universities, including “English classes, Spouses Groups, Advising, Spouses Welcome Orientation, Online information, and Family programs.” Under a separate category, participants were able to type additional services available to them. The measure consisted of the total number of spouses programs indicated by participants.

CHAPTER 4

RESULTS

Preliminary and Descriptive Analyses

Regression Diagnostics

In order to test the main research question regarding the moderating effects of social support and marital satisfaction in the link between acculturative stress and psychological distress, hierarchical multiple regression analyses were conducted. Preceding the statistical procedure for multiple regression, assumptions underlying linear regression models were tested. These tests included data examination for multicollinearity, normality, linearity, and homoskedasticity for the main variables Acculturative Stress (ASSIS), Social Support (ISSS), Marital Satisfaction (RAS), and Psychological Distress (BSI).

Regression diagnostics revealed no significant concerns regarding multicollinearity, i.e., high correlation between the predictor variables Acculturative Stress (ASSIS), Social Support (ISSS), and Marital Satisfaction (RAS) were not detected. Multicollinearity diagnostics produced variance inflation factors (VIF) ranging from 1.003 to 1.063, and tolerance ranged from .941 to .997. Values for VIF that exceed 10 and tolerance values less than .10 present cause for concerns regarding multicollinearity (Bowerman & O'Connell, 1990; Myers, 1990). (Table 4 – 1 shows VIF and Tolerance statistics for the four main variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress).

Examination of the normal probability plot of the regression standardized residuals of the four primary variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress, indicated violations for normality for three of the four main scales used. A test for skewness revealed that all but Acculturative Stress were significantly skewed. Consequently, a casewise diagnostic was run for the main variables Acculturative Stress, Social

Support, Marital Satisfaction, and Psychological Distress, identifying cases whose residuals were more than two standard deviations from the estimated line. Eight outlying cases were detected and eliminated from the data set. As a result, normality for the Social Support measure was established, while Psychological Distress (BSI) remained positively skewed and Marital Satisfaction (RAS) remained negatively skewed. Following recommendations by Tabachnik and Fidell (2000), the two variables Psychological Distress and Marital Satisfaction were log transformed and the resulting adjusted variables were used in subsequent analyses. Correlations between original and transformed variables (BSI adj. and RAS adj.) are shown in Table 4 – 2. In turn, hierarchical multiple regression analyses were run with both transformed and non-transformed variables. Results proved similar. Therefore, for practical purposes, interpretations of beta coefficients will be possible, and results for transformed variables will be reported. Notably, based on the log transformation, Marital Satisfaction scores were reversed; i.e., high scores on Marital Satisfaction indicate high marital dissatisfaction. Interpretations of results and discussion were rephrased accordingly.

Examination of Potential Covariates

In order to determine factors associated with dependent variables to be entered as potential covariates into the regression equation, a series of tests on the effect of age, region of origin, length of stay, and presence of children on the dependent variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress were performed, following Frazier, Tix & Barron (2004) recommendations. First, to examine the association between spouses' age and the four variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress, bivariate correlations between these factors were examined. Correlations between Age and Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress proved

not significant (see Table 4 - 2). Consequently, age was not entered as a covariate into the regression analysis.

Similarly, Box's M tests were conducted in order to determine the potential effects of spouses' region of origin (Asian, African, Middle Eastern, European, South American, North American), length of stay (below 6 months, 7-18 months, 19-30 months and above 30 months), visa type (F-2 and J-2), and presence or absence of children, on the dependent variables Acculturative Stress, Social Support, Marital Satisfaction, and Psychological Distress. Length of stay was modeled after intervals described in literature on sojourner adjustment (Church, 1982; Lysgaard, 1955). Box's M tests are used to examine homogeneity of variance-covariance matrices. Significant results indicate heterogeneity of covariance matrices across groups and suggest that it may be necessary to (1) include covariates in subsequent models, or (2) treat groups separately in further analyses. Box's M tests were non-significant among the four groups, thus covariance among these groups revealed no differences. Consequently, no covariates entered the regression analysis (see Table 4 – 4 for results of Box's M tests).

Descriptive Statistics

Descriptive statistics and internal consistency reliability estimates for the collected measures are presented in Table 4 – 5. For the primary variables Acculturative Stress (ASSIS), Social Support (ISSS), Marital Satisfaction (RAS), and Psychological Distress (BSI), Cronbach's coefficient alphas ranged from .88 to .97. For the secondary variables English Fluency, Financial Concern, Husband Academic Progress, and Life Role Saliency Scales (Occupational Reward Value Scale – Career; Occupational Reward Value Scale - Home), Cronbach's coefficient alphas ranged from .56 to .90. Correlations among the primary and secondary variables appear in Table 4 – 3. Means, Standard Deviations and reliability coefficients for primary and secondary variables are presented in Table 4 – 5.

Statistical Analyses and Test Hypotheses

Primary Research Questions and Hypotheses

The primary research questions addressed the relationship between Acculturative Stress, Financial Concerns, Stress Related to Husband's Academic Progress, and Goals for the Sojourn and Psychological Distress. Further, the moderating effect of Social Support and Marital Satisfaction in the link between Acculturative Stress and Psychological Distress were examined. For the present sample, Acculturative Stress (ASSIS) was significantly positively related to Psychological Distress (BSI), $r(134) = .51, p < .01$.

Testing for Moderator Effects

Separate hierarchical regression analyses were conducted following the standard procedures outlined by Cohen and Cohen (1983). To test the hypothesis regarding the moderating role of Social Support and Marital Satisfaction in the link between Acculturative Stress and Psychological Distress, suggestions by Baron and Kenny's (1986), and Frazier et al. (2004) regarding the use of hierarchical multiple regression analyses to test for moderator effects were followed. Procedures for analyzing and interpreting the interaction terms, recommended by Aiken and West (1991), were employed. All predictor variables were centered following Aiken and West's (1991) recommendations to reduce multicollinearity between the interaction terms. Consequently, mean deviation scores were calculated before creating multiplicative interaction terms (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003).

In addition, and for exploratory purposes, separate hierarchical regression analyses were conducted to test the potential moderating role of Social Support and Marital Satisfaction in the link between English Fluency, Financial Concern, Stress Related to Husband's Academic Progress and Psychological Distress. All predictor variables were centered, and standard

procedures outlined by Cohen and Cohen (1983) regarding hierarchical multiple regression were followed.

Hierarchical Multiple Regression Analysis

Two separate analyses were conducted to determine the association between Acculturative Stress and Psychological Distress and to examine whether interactions among Acculturative Stress and Social Support, and Acculturative Stress and Marital Satisfaction, respectively, significantly improved the overall models. In each regression, the first step was used to statistically control for Social Support or Marital Satisfaction and the other predictive variable (Acculturative Stress). In the second step, the interaction between the two predictors was entered. Thus, main effects (i.e., Acculturative Stress and Social Support; Acculturative Stress and Marital Satisfaction, respectively) entered the regression equation as a block in the first step of the analyses. In the next step, the two-way interaction terms Acculturative Stress X Social Support and Acculturative Stress X Marital Satisfaction were added separately into the equations. The test of the interaction is whether a significant proportion of variance is accounted for by interaction terms after partialing the main effects of the predictors in the first step of the analysis. Since interaction effects tend to be difficult to detect with multiple regression, a more liberal Type I error level of .10 was set, following the recommendations by McClelland and Judd (1993), and in order to explore potentially meaningful interactions. Significant change in R^2 for the interaction term indicates a significant moderator effect.

Regression results for the first regression are displayed in Table 4 - 6. Significant main effects were observed for Social Support and Acculturative Stress, such that Psychological Distress increased as Social Support decreased and Acculturative Stress increased. These main effects accounted for 28% of the variance in Psychological Distress. The interaction between Acculturative Stress and Social Support did not qualify the main effect, with no variance added

to the full model by the interaction term. Similarly, subscales of the Social Support measure did not individually qualify the main effect.

Regression results for the second regression are displayed in Table 4 - 7. Significant main effects were observed for Marital Dissatisfaction and Acculturative Stress, such that Psychological Distress increased as Marital Dissatisfaction and Acculturative Stress increased. These main effects accounted for approximately 35% of the variance in Psychological Distress. However, an interaction between Acculturative Stress and Marital Dissatisfaction qualified the main effects. Figure 1 displays the significant interaction effect of Marital Satisfaction in the link between Acculturative Stress and Psychological Distress. This plot was developed by following the procedures described by Cohen et al. (2003). Regression lines were used to plot Psychological Distress at low (1 SD below the mean), and high (1 SD above the mean) for the predictors Acculturative Stress and Marital Satisfaction. Consequently, and following procedures outlined by Aiken & West (1991), significance of simple slopes of regression lines at single values of the second predictor were tested (Aiken & West, 1991; Darlington, 1990; Friedrich, 1982; Jaccard, Turrissi, & Wan, 1990). First, standard errors of the simple slopes of regression equations were calculated. Then t-tests for the significance of the simple slopes were computed. Analyses of the interaction slopes showed that Psychological Distress increased significantly at high and low levels of Acculturative Stress when Marital Dissatisfaction was low, $\beta = .30$, $t(129) = 2.88$, $p < .01$, and when it was high, $\beta = .57$, $t(129) = 5.55$, $p < .001$ (see Figure 4 – 1).

Secondary Research Questions and Hypotheses

The secondary research questions addressed the relationship between spouses' level of Psychological Distress and English Language Fluency, Financial Concerns, Stress Related to Husband's Academic Progress, and Number of Goals for the Sojourn. English Language Fluency

was not significantly negatively correlated with Psychological Distress, $r(134) = -.10, ns$.

Financial Concerns and Stress Related to Husband's Academic Progress were significantly positively related to Psychological Distress, $r(134) = .18, p < .05$ and $r(134) = .27, p < .01$.

Results of a bivariate correlation also revealed that spouses' number of goals for the sojourn was not significantly negatively associated with psychological distress, $r(133) = -.01, ns$.

Exploratory Research Questions

A set of four exploratory research questions were examined. The first exploratory research question investigated whether type of Arrival (simultaneous versus separate) was associated with marital satisfaction, acculturative stress, or psychological distress. A set of independent t-tests was run with the independent variable being Arrival (simultaneous versus separate) and the dependent variables being Acculturative Stress, Marital Satisfaction, and Psychological Distress. The t-tests yielded no significant main effects for Arrival (simultaneous versus separate), with $t(130) = 1.17, ns$, for Acculturative Stress, $t(129) = 1.32, ns$, for Marital Satisfaction, and $t(130) = 0.38, ns$, for Psychological Distress.

Second, type of Decision Making (husband versus joint) in relation to spouses' Acculturative Stress, Marital Satisfaction, and Psychological Distress was examined. A set of independent t-tests was run with the independent variable being Type of Decision Making and the dependent variables being Acculturative Stress, Marital Satisfaction, and Psychological Distress. The results of the t-tests indicated no main effect for Type of Decision Making (husband versus joint), for Acculturative Stress, $t(118) = -1.81, ns$, for Marital Satisfaction, $t(118) = 1.82, ns$, and for Psychological Distress, $t(118) = -1.74, ns$.

Third, in order to examine the relationship between the number of spouses' programs reported by participants at their husbands' home university and their perceived level of social support, bivariate correlations between the Number of Spouses' Programs and Social Support

(ISSS) was investigated. The Number of Spouses' Programs was associated with higher levels of Social Support, $r(134) = .22, p < .05$, i.e.; as the number of reported spouses' programs increased, the level of perceived social support increased as well. In order to examine individual relationships between the subscales Instrumental Support and Socio-Emotional Support of the social support measure, separate correlations were investigated. The subscale of Instrumental support was more highly associated with the Number of Spouses' Programs, $r(134) = .23, p < .01$, than was Socio-Emotional Support, $r(134) = .17, p < .05$. Similarly, the Number of Spouses' Programs reported was also associated with lower levels of Acculturative Stress, $r(134) = -.21, p < .05$, but not with lower levels of Psychological Distress ($r = .03$).

Fourth, the relationship between Occupational Role Reward Value and Psychological Distress, and Homemaker Role Reward Value and Psychological Distress were investigated. Both Occupational Role Reward Value and Homemaker Reward Value were not significantly correlated with Psychological Distress, $r(134) = .03, ns$, and $r(134) = .08, ns$.

Lastly, the potential moderating effect of Social Support and Marital Satisfaction in the link between English Fluency, Financial Concern, Stress Related to Husband's Academic Progress, and Psychological Distress were examined. Six separate hierarchical regression analyses were performed to test for moderator effects. In each regression, main effects (i.e., English Fluency and Social Support, and English Fluency and Marital Dissatisfaction; Financial Concern and Social Support, and Financial Concern and Marital Dissatisfaction; Husband Academic Progress and Social Support, and Husband Academic Progress and Marital Dissatisfaction) entered the regression equation as a block in the first step of the analyses. In the next step, the two-way interactions English Fluency X Social Support and English Fluency X Marital Dissatisfaction; Financial Concern X Social Support and Financial Concern X Marital

Dissatisfaction; Husband's Academic Progress X Social Support and Husband Academic Progress X Marital Dissatisfaction were added separately into the equation.

In the first regression, a significant main effect was observed for Social Support, such that Psychological Distress decreased as Social Support increased ($\beta = -.25, p = .003$). A main effect for English Fluency was not found. The single main effect for Social Support accounted for approximately 8% of the variance in Psychological Distress. The English Fluency X Social Support interaction was not significant.

In the second regression analysis, a significant main effect was observed for Marital Dissatisfaction, whereas a main effect for English Fluency was not found. Psychological Distress increased as Marital Dissatisfaction increased ($\beta = .40, p = .001$). Marital Dissatisfaction accounted for approximately 17% of the variance in Psychological Distress. The interaction between English Fluency and Marital Dissatisfaction did not significantly qualify the main effect.

The results for the third regression revealed a significant main effect for Social Support, whereas a main effect for Financial Concern was not found. Psychological Distress decreased as Social Support increased ($\beta = -.24, p = .006$). The single main effect for Social Support accounted for approximately 9% of the variance in Psychological Distress. The interaction between Financial Concern and Social Support did not significantly qualify the main effect.

The results for the fourth regression revealed a significant main effect for Marital Dissatisfaction, such that Psychological Distress increased as Marital Dissatisfaction increased ($\beta = .40, p = .000$). The main effect for Financial Concern was marginally significant, such that when Financial Concern increases, Psychological Distress increases ($\beta = .16, p = .054$). The main effects for Financial Concern and Marital Satisfaction accounted for approximately 19% of

the variance in Psychological Distress. The interaction between Financial Concern and Marital Dissatisfaction did not significantly qualify the main effect.

The results for the fifth regression analysis revealed significant main effects for Stress Related to Husband's Academic Progress and Social Support, such that Psychological Distress increased as Stress Related to Husband's Academic Progress increased ($\beta = .27, p = .002$) and Psychological Distress decreased as Social Support increased ($\beta = -.24, p = .004$). These main effects accounted for approximately 13% of the variance in Psychological Distress. No significant interaction between Stress Related to Husband's Academic Progress and Social Support was found.

The results for the sixth regression analysis yielded main effects for Stress Related to Husband's Academic Progress and Marital Dissatisfaction such that Psychological Distress increased as Stress Related to Husband's Academic Progress increased ($\beta = .20, p = .015$), and Psychological Distress increased as Marital Dissatisfaction increased ($\beta = .36, p = .0001$). These main effects accounted for approximately 20% of the variance in Psychological Distress. No significant interaction between Stress Related to Husband's Academic Progress and Marital Dissatisfaction was found.

Table 4 – 1 VIF and tolerance statistics for predictor variables acculturative stress, social support, and marital satisfaction in hierarchical multiple regression models

Model	Collinearity Statistics	
	Tolerance	VIF
Acculturation (ASSIS)	.941	1.063
Social Support (ISSS)	.941	1.062
Interaction (ASSIS X ISSS)	.997	1.003
Acculturation (ASSIS)	.959	1.043
Marital Satisfaction ^a (RAS)	.958	1.044
Interaction (ASSIS X RAS)	.996	1.004
Acculturation (ASSIS)	.970	1.031
Marital Satisfaction ^b (RAS)	.966	1.035
Interaction (ASSIS X RAS)	.995	1.005

Note. Marital Satisfaction^a = transformed variable; Marital Satisfaction^b = non-transformed variable.

Table 4 – 2 Intercorrelations among primary variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. ASSIS	–	-.24**	-.20*	-.25	-.17*	.50**	.10	.18*	-.32**	.18*	.29**	.51**	.20*
2. ISSS		–	.93**	.94**	.22**	-.24**	.00	.02	.07	-.15	-.06	-.26**	-.21*
3. ISSS-SE			–	.75**	.22*	-.25**	-.04	.02	.13	-.08	-.08	-.28**	-.20*
4. ISSS-I				–	.20*	-.20*	.03	.01	.00	-.18*	-.04	-.21*	-.19*
5. RAS					–	-.35**	-.13	.00	.17	-.11	-.26**	-.37**	-.91**
6. BSI						–	.03	.08	-.10	.18*	.29**	.99**	.38**
7. LRSS-C							–	.26**	-.07	.09	.24**	.04	.09
8. LRSS-H								–	-.80	-.02	.15	.09	-.03
9. EF									–	.07	-.04	-.12	-.20*
10. ILS-FC										–	.31**	.18*	.07
11. ILS-HAP											–	.27**	.22*
12. BSI adj												–	.41**
13. MS adj													–

Note. N = 134; ** p < .01; * p < .05; ASSIS = Acculturative Stress; ISSS = Index of Sojourner Social Support; ISSS-SE = Index of Sojourner Social Support – Socio-Emotional; ISSS-I = Index of Sojourner Social Support – Instrumental; RAS = Marital Satisfaction; BSI = Brief Symptoms Inventory (Psychological Distress); LRSS-C = Life Role Saliency Scale – Occupational Reward Value Scale (Career); LRSS-H = Life Role Saliency Scale – Homecare Role Reward Value Scale (Homemaker); EF = English Fluency; ILS-FC = Index of Life Stress – Financial; Concerns; ILS-HAP = Index of Life Stress – Husband Academic Progress; BSI adj = transformed; MS adj = transformed (negative).

Table 4 – 3 Intercorrelations among acculturative stress, social support, marital satisfaction, psychological distress and secondary variables

Variable	1	2	3	4	5	6	7	8	9
1. ASSIS	-	-.24**	-.20*	-.25	-.17*	.50**	-.04	-.20*	.07
2. ISSS		-	.93**	.94**	.22**	-.24**	-.02	.22*	,09
3. ISSS-SE			-	.75**	.22*	-.25**	.02	.17*	.07
4. ISSS-I				-	.20*	-.20*	-.06	.23*	.10
5. MS					-	-.35**	-.00	.09	.02
6. BSI						-	-.09	.03	-.01
7. Age							-	-.02	.13
8. Services								-	.04
9. Goals									-

Note. ASSIS = Acculturative Stress; ISSS = Index of Sojourner Social Support; ISSS-SE = Index of Sojourner Social Support – Socio-Emotional; ISSS-I = Index of Sojourner Social Support – Instrumental; RAS = Marital Satisfaction; BSI =Brief Symptoms Inventory - Psychological Distress; Services = Number of Services present; Goals = number of goals for sojourn.

Table 4 – 4 Box's M tests of covariance homogeneity for spouses' region of origin, length of stay, visa type, and presence/absence of children

Source	<i>Box's M</i>	<i>p</i>
Region of Origin	13.09	.90
Length of Stay	25.39	.78
Visa Type	11.35	.37
Presence/Absence of Children	9.70	.51

Table 4 – 5 Mean, standard deviation, and alpha coefficient for primary and secondary variables

Variable	M	SD	α
1. ASSIS	92.21	21.60	.93
2. ISSS	48.10	14.60	.96
3. ISSS-SE	22.57	7.42	.94
4. ISSS-I	25.54	8.20	.95
5. RAS	30.67	4.07	.88
RAS adj	.60	.36	NA
6. BSI	88.23	29.79	.97
BSI transformed	1.92	.14	NA
7. LRSS-C	19.32	3.68	.72
8. LRSS-H	19.95	4.08	.82
9. EF	11.42	2.86	.90
10. ILS-FC	7.32	2.76	.81
11. ILS-HAP	8.15	2.77	.56
12. Age	29.48	4.20	NA

Note. ASSIS = Acculturative Stress; ISSS = Index of Sojourner Social Support; ISSS-SE = Index of Sojourner Social Support – Socio-Emotional; ISSS-I = Index of Sojourner Social Support – Instrumental; RAS = Marital Satisfaction; BSI = Brief Symptoms Inventory - Psychological Distress; LRSS-C = Life Role Saliency Scale – Occupational Reward Value Scale (Career); LRSS-H = Life Role Saliency Scale – Homecare Role Reward Value Scale (Homemaker); EF = English Fluency; ILS-FC = Index of Life Stress – Financial Concerns; ILS-HAP = Index of Life Stress – Stress Related to Husband’s Academic Progress; BSI adj = transformed; MS adj = transformed.

Table 4 – 6 Hierarchical regression summary of psychological distress regressed onto acculturative stress and social support

Step/Predictor	R^2	ΔR^2	B	SEB	β
Step 1	.28*	.28*			
Acculturative Stress			.00	.00	.48*
Social Support			.00	.00	-.15**
Step 2	.00.	.01			
Acculturative Stress			.00	.00	.47*
Social Support			.00	.00	-.15**
Acculturative Stress \times Social Support			.00	.00	.01

Note. * $p < .001$; ** $p = .06$.

Table 4 – 7 Hierarchical regression summary of psychological distress regressed onto acculturative stress and marital dissatisfaction

Step/Predictor	R^2	ΔR^2	B	SEB	β
Step 1	.35*	.35*			
Acculturative Stress			.00	.00	.44*
Marital Dissatisfaction			.13	.03	.32*
Step 2	.37*	.02 [†]			
Acculturative Stress			.00	.00	.44*
Marital Dissatisfaction			.13	.03	.33*
Acculturative Stress × Marital Dissatisfaction			.00	.00	.12 [†]

Note. * $p < .001$. [†] $p < .09$.

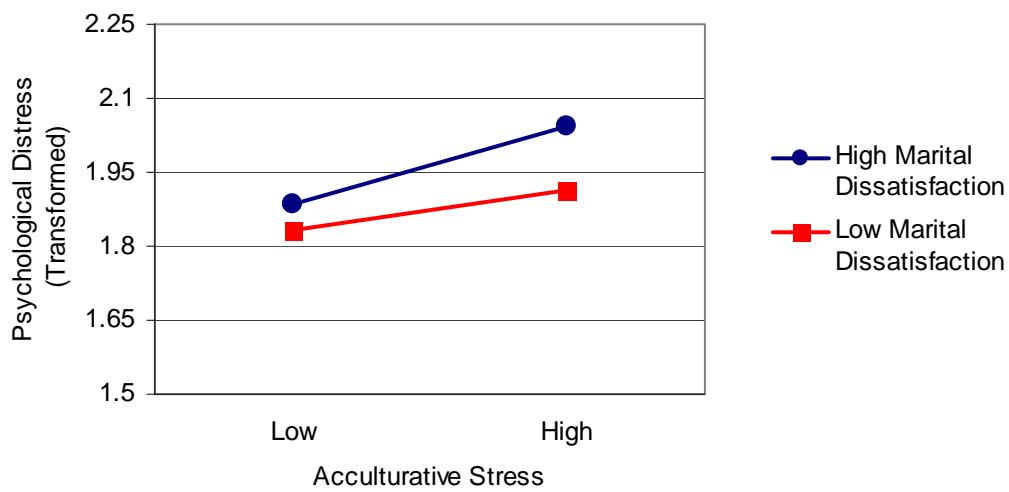


Figure 4 – 1 Predicted psychological distress means by acculturative stress and marital dissatisfaction.

CHAPTER 5 DISCUSSION

In this chapter, the primary research question addressing the relationship between acculturative stress and psychological distress will be discussed. Similarly, the role of social support and marital satisfaction in the link between acculturative stress and psychological distress will be explored. Further, secondary and exploratory research questions will be examined. Lastly, the chapter outlines limitations of the current study, final conclusions, implications for practice, as well as future directions for research.

Goals for the Study

Over the past several decades, increasingly higher numbers of international students have pursued academic training in the United States, and a sizeable group (22.5%) of international students arrive in the company of their partner or spouse (Institute of International Education, 2005). While international students' cross-cultural adjustment has received considerable attention in the sojourner literature, there is a paucity of research that addresses the unique challenges faced by the accompanying spouse or partner. For the international student, the sojourn is likely defined by a strong focus on educational goals such as completing additional training or obtaining a higher degree. In comparison, the goals and purpose of the stay in the United States are often less defined for the spouses, whose experiences are largely dependent on their partners' direction and progress (Chang, 2004; De Verthelyi, 1995; Lo, 1993; Schwartz & Kahne, 1993; Shao, 2001; Vogel, 1986).

The goal of this study was to examine the relationship between potential stressors and the psychological well-being of female spouses of international students. In particular, the study's purpose was to explore the relationship between spouses' acculturative stress and psychological adjustment. Further, it aimed to examine the role of social support and marital satisfaction as

potential moderators (buffers) in the link between acculturative stress and psychological adjustment. A number of additional, secondary and exploratory research questions were advanced in order to explore the relationship between potentially stressful factors and spouses' well-being while sojourning in the United States, and to establish a basis for further exploration of spouses' adjustment.

Interpretations of Results

Primary Research Questions

Acculturative stress and psychological distress

The first research question addressed the relationship between spouses' acculturative stress and psychological distress. Overall acculturative stress was measured by Sandhu & Asrabadi's (1994) ASSIS scale, which assesses perceived discrimination, homesickness, perceived hate, stress due to cultural change/cultural shock, and guilt, whereas the BSI measure taps into negative psychological well-being, including symptoms of anxiety, depression, and somatization, among others (Derogatis & Melisartos, 1983). As hypothesized, a positive relationship between measures of spouses' acculturative stress and psychological distress was found. In the present sample, higher levels of acculturative stress (ASSIS) were predictive of higher levels of psychological distress (BSI). According to Cohen (1988), the size of the relationship between acculturative stress and psychological distress can be considered medium to large ($r = -.51, p < .01$). This finding is consistent with conceptualizations outlining a close relationship between life stressors and mental health symptoms in general (Lazarus & Folkman, 1984; Thoits, 1995), and between acculturative stress and mental health in particular (e.g., Church, 1982; Leong & Chou, 1996; Mori, 2000). It also confirms results of previous empirical research with samples of international students that reported a positive relationship between acculturative stress and mental health symptoms (Constantine et al., 2004; Lee et al., 2004; Yang & Clum, 1995; Ying &

Han, 2006). While a connection between acculturative stress and mental health symptoms had previously been established for sojourner groups of international students and expatriate spouses, this study extends the literature on sojourner adjustment by establishing the link between acculturative stress and psychological distress for the subgroup of spouses of international students.

Similar to other types of international sojourners, spouses of international students undergo an adjustment process to unfamiliar physical and cultural environments that is potentially stressful, and can lead to individuals experiencing mental health symptoms (Mori, 2000). Cross-cultural literature points to the fact that stress levels encountered by international students might approach levels of acculturative stress experienced among refugees, which are usually reported as most severe (Berry & Kim, 1988). Similarly, Poyrazli et al. (2004) stated that international students lack personal connections upon their arrival and as a consequence are prone to experience considerably greater adjustment difficulties than established ethnic groups. Compared to mean ASSIS scores reported by international students in previous studies, sample mean ASSIS scores in the current study were comparably higher, indicating that spouses of international students experience at least similar or higher levels of acculturative stress in comparison to foreign student populations (e.g., Constantine et al., 2004; Poyrazli et al., 2004).

The stress and coping literature has consistently pointed to the fact that stress, i.e., internal or external demands that required an individual to change his or her functioning, may be linked to mental health symptoms (Lazarus & Folkman, 1984; Thoits, 1995). Whereas negative life events have been shown to predict subsequent psychological distress in general, stressors associated with cross-cultural transitions in the absence of coping mechanisms may be particularly impacting spouses of international students. Upon their sojourn, spouses face

numerous areas that demand adjustment on their part. These include the disruption of their social network, adjustment to new surroundings (language, food, customs, etc.), as well as changes in home and work life. Further, whereas husbands and partners may also experience a disruption of their personal life upon their sojourn, they are likely to find themselves in the defined role as a student or trainee and within a network of academic support. Spouses, on the other hand, face the burden of not being institutionally connected. Due to the lack of personal and professional connections, they may therefore be particularly vulnerable to the impact of acculturative stressors upon their transition, and numerous mental health outcomes have been cited in the spouses literature, including anxiety and depression (e.g., De Verthelyi, 1995; Schwartz & Kahne, 1993; Vogel, 1985). Similar to international students' however, spouses may also be reluctant to seek psychological help (De Verthelyi, 1995). In addition, psychological distress in spouses of international students could reflect "trait" as well as "state" features, meaning that international student spouses may "bring distress with them", rather than experiencing it as a consequence of acculturation experiences (e.g., Costa & McCrae, 1998). Longitudinal work would better be able to assess the contribution of personal variables that spouses bring to the sojourn.

The moderating role of social support and marital satisfaction

Social support. First, this study hypothesized that social support would act as a buffer in the link between acculturative stress and psychological distress; i.e., it would ameliorate the negative effects of acculturative stress on psychological adjustment. Social support was measured by employing the overall score of the ISSS scale, an instrument that assesses both instrumental and socio-emotional support (Ong & Ward, 2005). Whereas instrumental support measures hands-on, practical support, the socio-emotional subscale taps into an individual's perceived "emotional support and social companionship" (Ong & Ward, 2005, p. 638-639).

Social support has been named as a buffer against stress, and previous research has established social support as a positive correlate of emotional well-being in samples of both expatriate spouses and international students (Copeland & Norell, 2002; Lee et al., 2003; Misra et al, 2003; Poyrazli et al., 2004; Ward et al., 2001). In the current study, both the combined measure of social support as well as individual subscales failed to moderate the relationship between acculturative stress and psychological distress. Thus, social support did not qualify the relationship between acculturative stress and mental health symptoms in our sample of spouses of international students.

Previously, no studies had examined the role of social support in the context of spouses of international students. In the current study, the lack of a moderating effect of social support may be due to several factors. First, past studies have pointed to the relative importance of social support as a coping strategy during cross-cultural transitions (e.g., Copeland & Norell, 2002; Lee et al., 2003; Misra et al, 2003; Poyrazli et al., 2004). However, no research has empirically explored the unique experience that spouses of international students may face in relation to the disruption and re-establishment of their social network system. Whereas several authors have pointed to the necessity of spouses programs to facilitate spousal adjustment, none of these reports included empirical data on the effectiveness of support programs (e.g., Ojo, 1998; Schwartz & Kahne, 1993; Vogel, 1985). Spouses of international students can be viewed as a specific subgroup of international sojourners. Consequently, for spouses of international students, social support, both instrumental and socio-emotional, may not represent a coping strategy salient enough to offset the impact of acculturative stress and its effect on mental health in the manner previously expected. Thus, even though the ISSS scale measured two distinct qualitative components of sojourner social support, instrumental and socio-emotional support,

the scale's items may not have tapped into the unique experience of spouses of international students. Further, findings in the social support literature point to the fact that perceived emotional support as opposed to social integration is related to better psychological adjustment. Thoits (1995), for example, noted that "social integration does not buffer the physical or emotional impacts of major life events or chronic difficulties in people's lives" but, on the other hand, "perceived emotional support is associated directly with better physical and mental health" (p. 64). The measure employed in this study asked respondents to indicate "if you know person(s) who would perform the behaviors described," with participants listing the number of individuals such as "no one would do this," "someone would do this," etc. It is possible that the ISSS measure (Ong & Ward, 2005) may not have adequately measured the construct of "level of perceived social support" for the sample in this study. Thus, the number of individuals providing support may not be equal to the level of social support obtained. It is possible that perceived social support may be high due to a single person providing it (e.g., husband), where a single person providing support would result in a low score on the ISSS social support measure. The importance of a single individual's support can be substantiated by Snyder's (1987) findings in a sample of immigrant women. Emotional support from one's partner was significantly negatively related to depressive symptomatology whereas social support from outside sources was not. This points to the weight of direct partner support as the most important contributor to the well-being of accompanying spouses. Replication of the current study employing the ISSS social support scale along with alternative measures of sojourner social support in additional samples of spouses of international students will therefore be necessary.

Despite the lack of a significant moderating effect, correlations between social support, acculturative stress and psychological distress, respectively, confirmed the directions of

relationships in previous findings. (e.g., Poyrazli et al., 2004; Yeh & Inose, 2003). In the current sample, social support was both negatively correlated with acculturative stress ($r = -.24, p < .01$) and psychological distress ($r = -.24, p < .01$); i.e., higher levels of social support were related to lower amounts of acculturative stress and to lower levels of psychological distress. Further, when subscales of the social support measures were considered, socio-emotional support was somewhat less negatively correlated with acculturative stress ($r = -.20, p < .05$), than instrumental support ($r = -.25, p < .01$), whereas the reverse was true for the relationship between psychological distress and socio-emotional support ($r = -.25, p < .01$) and instrumental support ($r = -.20, p < .05$). Socio-emotional support taps into an individual's perceived "emotional support and social companionship" (Ong & Ward, 2005, p. 638-639), while instrumental support includes "tangible assistance" and "informational support" (Ong & Ward, 2005, p. 639). Based on hierarchical multiple regression analysis, Ong & Ward (2005) stated that in their examination, instrumental support was more relevant to sojourner psychological adaptation as measured by the Zung Self-Rating Depression scale (Zung, 1965). In the present sample, instrumental support was more closely associated with acculturative stress than with psychological distress, while the reverse was true for socio-emotional support. The present findings point to the likelihood that instrumental support may be more relevant in overcoming the challenges of acculturation (sample items: "explain local culture," "deal with official rules and regulations," "make a situation clearer"), whereas socio-emotional support may play an important role in stabilizing an individual's emotional and psychological well-being (sample items: "share good and bad times," "listen and talk with you whenever you feel lonely and depressed"). This finding also supports the assertion by Thoits (1995) and Cohen & Wills (1985) that emotional support is more closely related to psychological well-being than actual social integration. Moreover, the findings of the

current study lend support to Ong & Ward's (2005) notion that socio-emotional support and instrumental support can be viewed as different but related constructs (2005).

On the other hand, a quantitative measure of sojourner social support, such as provided by the ISSS scale (Ong & Ward, 2005), may not adequately measure perceived social support for spouses of international students. Dependent on the sojourner's role, the quality of a close and supportive relationship with one's partner may become more salient, as the unit of the sojourning couple may find itself isolated from immediate social support, and long distance support may not adequately provide the coping needs in the adjustment situation. In comparison, individual sojourners, e.g., unaccompanied international students, may be more reliant on finding a support network in the host culture. Future research should aim to distinguish between various sojourner roles and the type of social support needed by each group.

Marital satisfaction. Similarly, it was hypothesized that marital satisfaction would exhibit a moderating effect in the link between acculturative stress and psychological distress. Marital satisfaction was assessed through the Relationship Assessment Scale (RAS), a self-report measure of relationship satisfaction (Hendrick, 1988). Due to data transformation in the analysis phase of this study, marital satisfaction scores were reversed. Therefore, and in order to be consistent with the report on the data analyses, the term "marital dissatisfaction" will be used if appropriate for subsequent discussions (see chapter 4).

As predicted, marital dissatisfaction exhibited a significant moderating effect in the link between acculturative stress and psychological adjustment. Therefore, the positive relationship between levels of acculturative stress and psychological distress was qualified by the presence or absence of marital dissatisfaction (see Figure 5 – 1). At high levels of acculturative stress, both high and low marital dissatisfaction qualified the effect of acculturative stress on psychological

distress. That increase was not as marked for low marital dissatisfaction. At high acculturative stress levels, the difference between high and low marital dissatisfaction accounted for 26 points on the BSI scale, which is nearly one standard deviation, whereas at low acculturative stress level, the difference was 10 points on the BSI scale (.33 standard deviations). In other words, at high levels of acculturative stress, high marital dissatisfaction exacerbated the effects of acculturative stress on psychological distress. Similarly, at high levels of acculturative stress, low marital dissatisfaction attenuated the effect of acculturative stress on psychological distress. The spread between individuals experiencing high or low levels of marital satisfaction is of practical importance. Thus, individuals who report high marital dissatisfaction (low marital satisfaction) tend to score higher on psychological distress at high acculturative stress levels, while individuals with low marital dissatisfaction (high marital satisfaction) tend to score lower on measures of psychological distress at high acculturative stress levels.

The finding points to the relevance of marital satisfaction as a salient factor in the cross-cultural adjustment experience of spouses of international students. It also establishes marital satisfaction as a moderator in the link between acculturative stress and psychological distress. A limited amount of previous literature has established marital satisfaction as a stress buffer for successful cross-cultural transitions. This finding lends support to Sweatman's (1999) findings that general marital satisfaction predicted depression scores in a sample of missionary couples. However, the comparison is limited by the fact that Sweatman assessed couple's individual scores but failed to report differences according to gender or role (Sweatman, 1999).

The cross-cultural transition may put more stress on the couple as a unit, and the quality of their marital relationship may in turn affect the adjustment to a new culture. In their review of the literature, Schwartz & Kahne (1993) highlighted the importance of the social relationship with

one's partner in the broader context of intercultural adjustment, as well as the stress put on families during cultural transitions. Qualitative accounts on spouses of international students' cross-cultural adjustment have similarly emphasized the significance of the relationship between spouses' marital satisfaction and spouses' psychological adjustment (De Verthelyi, 1995; Chang, 2004; Shao, 2001).

Evidently, individuals experiencing high acculturative stress may be more at risk for experiencing mental health symptoms, and the risk may in turn be exacerbated or diminished by the presence or absence of marital satisfaction. Findings in this study show that perceiving one's marital relationship as intact and fulfilling, may in turn offset some of the stressors experienced and serve as an important coping mechanism. The reverse is true for spouses with low marital satisfaction, who, as a consequence, may lack sufficient coping strategies and experience increased stress reactions. Spouses may have limited access to a larger personal and professional network, which in turn may increase their dependence on their partners. Whereas coping resources may have been distributed across family members and friends in the past, the cross-cultural transition may shift the focus primarily on the relationship. If the relationship is intact, spouses tend to benefit, whereas if they experience low marital satisfaction, their coping strategies may be limited and they may be at risk for psychological distress.

Importantly, the couple's cross-cultural transition appears to put emphasis on the quality of the marital relationship. Whereas for some spouses this transition may go hand in hand with a positive view of the relationship, for others, the transition may be more difficult if the marital relationship is not fulfilling. Vogel (1986), for example, in her study on Japanese wives at Harvard, contended that spouses, who previously relied on support from female relatives at home, are not able to replace these close bonds with new acquaintances during their sojourn.

Instead they grow a closer bond with their husbands, to the extent that their union represents a “nuclear family” (Vogel, 1986, p. 277), where the “husband spends more time with his family (...) and there is more socializing as a couple” (p. 277). Similarly, in her qualitative study interviewing Chinese wives of international students, Shao (2001) reported that the lack of social obligations had led to a stronger interdependence between husband and wife, with spouses serving as the international students’ primary source of social support. Similarly, in her qualitative study on Taiwanese couples sojourning in the United States, Chang (2004) noted that while some couples benefited from less social obligations toward their families back home, the “lack of resources in a foreign country facilitated the codependence between husband and wife” (p. 242), and more need by the spouses to express their emotions to their husbands while in the United States as opposed to close friends in the past. Based on her findings, Chang (2004) also suggested that the impact of the couple’s individual acculturation level may be favorable or unfavorable on marital satisfaction, and should thus be taken into consideration when working with distressed Taiwanese couples.

Evidently, the couple’s cross-cultural transition appears to shift priorities and social roles within the relationship and may lead to a closer bond between the couple. Consequently, the quality of the relationship becomes more salient and its perceived quality may in turn affect the mental well-being of the spouses. The limited access to family and other support systems may exacerbate an already stressful situation, if the relationship is perceived as unsatisfactory. Even though spouses may have contact with friends and family through Internet and telephone communication, their everyday experience may be limited to the couple’s existence. Bonds that had been established over years in their home country may not easily be replaced by new acquaintances, and naturally, spouses may turn to their husbands for social support. At the same

time, husbands may need to put a considerable amount of effort into their academic training, and may in turn not be readily available. With a lack of alternative coping strategies at hand, spouses high on acculturative stress and low on marital satisfaction may in turn be experiencing more mental health problems.

Due to this study being cross-sectional, no evidence was gathered as to the pre-arrival status of the marital relationship quality and its effect on post-arrival quality. Shao (2001) indicated that the painful experience of adjustment may in turn have an effect on the marital relationship. In this study, no conclusion can be drawn as to whether marital satisfaction changed over the course of the cross-cultural transition, and whether it did so for the couple as a whole or differently the individuals. In the future, longitudinal approaches to the study of marital satisfaction of spouses and their partners may assist in examining the impact of cultural transitions on sojourning international student couples.

Social support and marital satisfaction: a comparison

Notably, whereas marital satisfaction did modify the relationship between acculturative stress and psychological distress in this sample, social support did not. Even though interrelated, marital satisfaction and social support appear to be two different factors, especially in the context of a family's cross-cultural transition. Snyder (1987), for example, found that in a sample of Mexican immigrant women, external social support was not related to depressive symptomatology and acculturative stress, whereas internal social support (the perceived social support from one's partner) was significantly related to depressive symptomatology, with less internal social support predicting more depressive symptomatology. This distinction hints at the role and importance of social support versus marital satisfaction in the cross-cultural transition. Whereas marital satisfaction becomes an important contributor, social support in the form of a social support network takes a secondary role. In a study by Poyrazli et al. (2004), married

international students showed greater levels of social support, which points to the saliency of inter-couple support for sojourner families. Thus, in their effort to cope with the stress of living in a foreign country, the quality of a couple's relationship appears to be more central for the spouses than the amount of social support at hand.

For single international students, establishing a social network may present a primary coping strategy in the cultural adjustment process, a fact that studies on international students have consistently pointed out (Lee et al., 2003; Misra et al., 2003; Poyrazli et al., 2004). Comparably, the transition of a couple to the United States may lead individuals to rely heavily on each other, and marital satisfaction in turn receives a primary role, and where "the marriage is required to bear the whole weight of relational needs and providing social support when previously this support had been supplied by numerous people and communities" (Sweatman, 1999, p. 16). Similarly, Adelegan and Parks (1985) pointed to the fact that married students have greater difficulty establishing a social network upon their sojourn (cited in De Verthelyi, p. 390). This circumstance could increase a couple's social isolation, and their reliance on each other. Spouses whose marriage is intact and well functioning may benefit from a closer bond, whereas spouses' cross-cultural adjustment and mental health may be at risk if they report an unfulfilling marital situation.

The current findings have implications for the planning of family support programs. First, spouses often do not have the individual right to access mental health services on college campuses and often can only do so in conjunction with their partners who are fee-paying students. This may prevent spouses in need of service from seeking help, whereas they may also be reluctant to ask their partner to join them for counseling, or partners may be unwilling to do so. Second, while necessary and helpful, spousal support groups often focus primarily on

everyday needs of spouses while not adequately addressing the potential needs of couples during the adjustment process. Shao (2001), for example, noted that during the cultural transition, the marital relationship has to be redefined, and the new situation and circumstances may create conflict. To serve international students well, the marital relationship of students ought to be taken into account. Third, United States universities have recognized the importance of providing support services for international students during their sojourn. Similarly, universities and international centers need to become aware of the needs of spouses, and the potential impact of spouses' well-being on international students' academic success. Chun (1994), for example, discussed a couple's family situation as one of the aspects that determined failure among Japanese expatriates, and Black and Stephens (1989) reported a strong correlation between adjustment levels of expatriates and their spouses. Fourth, national communities may vary in their level of support, and group comparisons may assist in learning about differences between nationalities and various ethnic communities. Finally, preventive measures (information, orientation, etc.) to ensure support for the couple as a unit may be necessary at the beginning as well as during the couple's sojourn.

Secondary Research Questions

In addition, a number of additional potential stressors and their relationship to psychological distress were examined. It was hypothesized that spouses' English fluency, financial concerns, and stress about husbands' academic progress would be positively related to spouses' psychological distress. In addition, the relationship between number of goals for the sojourn and marital satisfaction, acculturative stress, and psychological distress was studied.

English fluency

In the present sample, no relationship between spouses' English fluency and psychological distress was found. This finding is not consistent with previous research (Nwadiora & McAdoo,

1996; Lin & Yin, 1997; Poyrazli et al., 2001; Yang et al., 2005; Yeh & Inoseh, 2002). Since past studies employed samples of international students only, a direct comparison is problematic. In general, English language proficiency may not have been an equally salient factor for spouses of international students in this sample. This result should be considered with caution, however. The study's participants consisted of spouses whose English level appeared sufficient in order to take the survey. It is possible that spouses whose English language skills were weaker either did not participate or failed to complete the entirety of the survey, which in turn may have biased the present results. Thus, replicating the study with psychometric measures translated into spouses' major spoken languages may assist in addressing this shortcoming. Further, alternative measurements of English fluency should be employed to tap into English proficiency level.

Financial concern

Results indicated a positive relationship between levels of spouses' financial concern and psychological distress. They are consistent with findings on the relationships between international students' levels of financial concerns and psychological distress of international students (Misra et al., 2005). Financial difficulties have been named as one of the key stressors for international students (Church, 1982; Koyama, 2005; Mori, 2000). Naturally, spouses share the financial implications of an overseas move, its impact on the couple's budget, and the likelihood of a downgrade of the couple's socio-economic status (De Verthelyi, 1995).

According to the Open Doors report, financial support from family and personal savings are the main source of financial support in sojourning students (IIE, 2005). Similarly, couples often rely on students' income through assistantships and tuition waivers, without the possibility of outside employment due to visa restrictions. In addition, where spouses may have been able to make financial contributions to the household in the past, spouses on F-2 dependent visas are prohibited from doing so, unless they resort to illegal employment, such as providing child care

and cleaning services (De Verthelyi, 1995). J-2 dependents, in contrast, are permitted to seek employment as long as the income does not make a significant contribution to the couple's budget (MIT, International Scholars Office, 2007). Nevertheless, lack of English language skills, unfamiliarity with U.S. job search practices and difficulties of transferring educational degrees may hinder spouses from obtaining employment that is commensurate with previous career aspirations and level of occupation. Lastly, international students and spouses may be dependent on fluctuating exchange rates between the U.S. dollar and their home currency (Koyama, 2005). As a result of their limited ability to financially contribute to the household income, spouses may be vigilant as to the couple's financial status, which in turn may impact their psychological well-being.

Husband academic progress

Similarly, a positive relationship between spouses' concern about husbands' academic progress and psychological distress was detected. This finding is consistent with previous, qualitative studies reporting a relationship between spouses' concern about their husband's academic progress and stress reactions such as "grief and resentment" (Shao, 2001). Whereas for international students, the overall success of the sojourn is closely related to their academic success, spouses may be similarly impacted by their partner's progress. Spouses often have to temporarily give up their own career goals in order to accompany their partners abroad. In the current sample, 79.9% of the spouses who took the survey indicated that they had a job or career before moving to the United States, and 17.9% stated that did not pursue a career or job before the transition. Similarly, educational levels of accompanying spouses in the current sample are high, with approximately 44% of participants indicating that they hold at least a master's degree, and 46% having graduated from college. Qualitative studies on spouses of international students have consistently pointed to the professional role changes that spouses of international students

undergo, i.e., from having worked full-time before relocation, to that of a homemaker after (e.g., De Verthelyi, 1995).

Further, academic performance by the international student may directly impact length of stay and the securing of fellowships and scholarships (Koyama, 2005). The temporary disruption of spouses' career goals and aspirations as well as limited income may put additional focus on their partner's academic performance. In our sample, spouses' stress related to husband's academic progress also significantly and negatively predicted marital satisfaction scores ($r = .26$, $p < .01$). Therefore, we may conclude that stress associated with husband's academic progress could potentially negatively impact the perception of the couple's relationship, which in turn may contribute to difficulties in the adjustment process.

Number of goals for the sojourn

First, the relationship between the number of goals spouses identified during their sojourn and their level of acculturative stress and psychological distress was examined. It was hypothesized that a higher number of goals was associated with lower levels of acculturative stress and psychological distress. In the current sample, no relationship between number of goals, acculturative stress and psychological distress was found. Spouses of international students may vary as to their purpose for the sojourn, with some individuals identifying one or more personal goals for their stay. In addition to selecting sample goals in the survey provided, spouses also provided written, self-generated goals.

Being clear about one's goals, i.e., identifying one or several personal projects, provides a sense of purpose and orientation for spouses of international students (Furnham & Bochner, 1986; De Verthelyi, 1995). Based on her qualitative interviews, De Verthelyi (1995) concluded that spouses' well-being was related to their ability to identify goals for the sojourn. The author indicated that identifying a personal goal may serve as a coping strategy to assist with feelings of

loss, provide purpose, and influence the degree to which the sojourn is seen as satisfactory (De Verthelyi, 1995). In this study, however, the number of goals was neither predictive of spouses' acculturative stress nor of psychological adjustment.

In the current study, spouses indicated the number of goals for their sojourn. It is possible that the number of goals stated may not directly correspond to actual goals pursued. Thus, measuring spouses' goals may be improved by including psychometric measurements that assess alternative constructs such as goal-orientation or self-efficacy, for example.

Exploratory Research Questions

Exploratory questions were designed to empirically validate a number of statements that had been derived from qualitative studies on spouses of international students. These included research questions addressing couples' simultaneous versus separate arrival and decision-making. Further, the relationship between spouses' perceived level of social support and number of spouses' programs at their partner's universities was explored. Finally, moderating effects of social support and marital satisfaction in the link between English fluency, financial concern, stress related to husband's academic progress and psychological distress were examined.

Simultaneous versus separate arrival

First, the question as to whether simultaneous versus separate arrival was related to marital satisfaction was explored. Previous qualitative studies on spouses of international students addressed the potential impact of a couple's separate versus simultaneous arrival. In general, it was noted that simultaneous arrival benefited the marital relationship due to the fact that couples are going through the experience of arriving in a foreign country together and are sharing the challenges of the cultural transition (De Verthelyi, 1995). Similarly, in a sample of five interviews with female Chinese spouses, Shoa (2004) observed that "the longer the couple was separated before reunion, the more likely they would have marital problems" (p. 4). In turn, this

study examined the difference between separate versus simultaneous arrival on levels of marital satisfaction, acculturative stress, and psychological distress. No relationship between separate versus simultaneous arrival and levels of marital satisfaction, acculturative stress, and psychological distress was found. Thus, on these three dimensions, spouses who had arrived simultaneously with their partners did not significantly differ from spouses who had arrived after their partners on measures of marital satisfaction, acculturative stress, and psychological distress. The absence of a statistical relationship between the two arrival scenarios and aspects of psychological distress appears inconsistent with stresses that might accompany separation, and for this reason this effect may merit future attention. Similarly, examining different lengths of separation in relation to spouses' adjustment levels may assist in further exploring this issue.

Decision making about sojourn

Couples may differ in their approach to decision-making about the sojourn. Some couples engage in a collaborative process of deciding about the sojourn, whereas others have a more unilateral decision-making process, with the husband primarily making the decision. In the current sample, 69.4% of the participants specified that they had made the decision to come to the United States "together with their husbands," 20.1% responded that "their husband had made the decision because it was important for his career," and 10.4% responded in the category of "other." In turn, the couple's type of decision-making and spouses' levels of marital satisfaction, acculturative stress and psychological distress were examined. In the current study, type of decision-making, joint versus husband, failed to have an effect on spouses' levels of marital satisfaction, acculturative stress and psychological distress.

In her qualitative study on sojourning spouses, De Verthelyi (1995) noted that out of 49 spouses interviewed, "the majority [...] named their husband as the sole originator of the sojourn" (p. 394). Further, De Verthelyi also stated that spouses "prioritizing their own needs

collided with two basic cultural and family based injunctions which seemed to overrule any opposition to the overseas project: the social prestige of a foreign degree and the traditional value placed on the wife's duty to follow her husband" (p. 394). Cultural variations in couples' decision-making strategies may partially explain the lack of an effect in the current sample. In couples whose mode of relationship is of a hierarchical nature, i.e., most of the power is assumed by the male member of the family, the decision about a sojourn may not be questioned by the spouses and family, and therefore be unrelated to one's perceived marital satisfaction and stress levels. Additional exploration of cultural differences in couples' decision-making practices may assist in further exploring the notion of moving and choice (Silberstein & Fowler, 1989).

Presence of spouses programs

The number of spouses' programs available at their husband's university was reported by the participants. In turn, relationships between number of spouses' programs and spouses' perceived level of social support, acculturative stress and psychological distress were investigated. Results indicated that the number of spouses' programs was predictive of spouses' perceived level of support. In particular, number of spouses' programs present was more highly associated with perceived instrumental support ($r = .23, p < .05$) than it was with socio-emotional support ($r = .17, p < .05$). The number of spouses' programs was also related to lower levels of acculturative stress ($r = -.20, p < .05$), but it was unrelated to spouses' psychological distress.

Numerous studies have pointed to the importance of spouses' programs provided by universities in order to assist spouses' adjustment process (Vogel, 1986; Schwartz & Kahne, 1993). According to this study, the number of programs is also indicative of the type of support perceived. Instrumental support was defined as "hands-on" support (Ong & Ward, 2005). Therefore, spouses' programs appear to provide the type of support needed when navigating the

stressful circumstances of cultural transitions. Similarly, spouses' support groups may also be a place for mutual support. In turn, spouses' programs are related to lower levels of acculturative stress and thus may assist in offsetting some of the stressors that spouses experience during their sojourn.

Occupational and homemaker role reward value

The relationship between spouses' Occupational and Homemaker Role Reward Value and psychological distress was examined. Occupational and Homemaker Role Reward Value comprise two of the subscales of the Life Role Salience Scales (LRSS; Amatea et al., 1986). No relationship was found between the value that spouses attribute to the role of career and homemaking and spouses' level of psychological distress.

Spouses may experience profound role changes during their sojourn in the United States, which in turn affects their career development. Several factors are likely contributing to shifts in career-related identities, including visa restrictions allowing for no or limited work opportunities, differences between home and foreign identities, financial dependence on partners, and change from an active professional life to that of a more traditional homemaker (Chang, 2004; Day, 2003; De Verthelyi, 1995). Based on her qualitative study, De Verthelyi (1995) had concluded that the amount of acceptance or rejection of spouses' traditional role as a homemaker during the sojourn was related to spouses' psychological adjustment. Additional, alternative measures to assess spouses' career orientation should be employed to further investigate issues related to spouses' career development during their sojourn.

Moderator effects

Lastly, the potentially moderating effects of social support and marital satisfaction in the link between English fluency, financial concern, and stress related to husband's academic progress, and psychological distress were investigated. No moderator effects were detected in the

relationship between English fluency, financial concern, stress related to husband's academic progress and psychological distress. Social support and marital satisfaction do not have a buffering effect between these stressors and stress outcome.

Limitations

When interpreting the results of this study, the following limitations should be taken into consideration. First, due to the correlational nature of the study, no conclusion as to the cause and effect in the relationship between predictor and outcome variables can be made. Second, participants were not randomly selected, and thus generalization of the present results is limited. Third, the survey relied on self-report and answers may not accurately reflect spouses' level of stressors, stress outcome, and stress buffers. Fourth, since participation occurred on a voluntary basis, self-selection may have biased the results. Fifth, the survey was presented in English. Spouses with inadequate English language skills may have been precluded from participating or may have been reluctant to complete the survey. Whereas spouses who did take the survey indicated their level of understanding in English, the current study was unable to determine how many spouses did not participate or did not complete the questionnaire based on their English language skills. Sixth, even though attempts were made to directly contact spouses, participant recruitment often occurred indirectly via administrators and facilitators of international family and spouses' programs, who may or may not have forwarded the recruitment information. Similarly, the study attempted to reach spouses of international students via international student email listservs, and partners may have been reluctant to forward the information, which in turn may have biased the results.

Final Conclusions

This study confirmed the relationship between acculturative stressors and stress outcome among a sample of spouses of international students, with acculturative stress serving as a

predictor of psychological distress in this subgroup of sojourners. Further, the findings of this study established marital satisfaction as a moderator in the relationship between acculturative stress and psychological distress. Marital satisfaction exerted a buffering effect between stressors and stress outcome in the current sample, while social support did not. High and low marital satisfaction both qualified the relationship between high acculturative stress and psychological distress.

Overall, this study established the relative importance of marital satisfaction for spouses during their sojourn. Several authors have pinpointed the tightening of a couple's relationship as a result of the cross-cultural transition. In turn, the close bond may have both positive and negative effects on spouses, depending on the quality of their relationship. Spouses who perceive a lack of marital satisfaction and find themselves without an immediate social network in the new surroundings, may thus have limited coping strategies at hand and in turn experience higher levels of psychological distress. On the other hand, high levels of marital satisfaction may ameliorate/offset acculturative stress and its impact on psychological distress. Thus, marital satisfaction, and the quality of the marital relationship, serves as a salient concomitant in the cultural adjustment process of spouses and needs to be taken into account by university offices in their work with international students and spouses alike.

Further, a number of secondary and exploratory research questions were examined. Financial concerns and stress related to husband's academic progress were identified as stressors that predicted psychological distress in spouses of international students. Further, this study revealed a relationship between spouses' perceived social support and the number of spouses' programs present at their husbands' universities. Evidently, an increased number of spouses

programs is related to higher social support measures in the current sample, and related to instrumental support in particular.

Finally, no relationship was found between number of goals for the sojourn and the main variables acculturative stress, marital satisfaction and psychological distress. Nor were differences detected between simultaneous versus separate arrival or joint versus husband decision-making on the main variables acculturative stress, marital satisfaction and psychological distress.

Implications for Practice

Spouses of international students continue to represent an invisible group on university campuses. In order to serve the international student population and their accompanying families well, spouses have to be taken into account by United States higher education institutions. Thus, increased awareness of the presence of international student families and the issues associated with families living abroad should be addressed by United States higher education institutions in several ways. International office staff, academic advisors, and training directors may benefit from becoming increasingly knowledgeable about the experience of spouses of international students as they accompany their partners to complete training abroad. Preventive and remedial measures to assist spouses of international students, international student couples, and international students accompanied by family members, could be adopted by various college offices working with international students. Additional research evidence in the form of quasi-experimental and experimental studies should be collected to support potential measures that could assist spouses during their stay and warrant claims for intervention. Based on the results of the current study, several suggestions for practices with spouses of international students and international couples will be put forward.

1. Increased awareness about the presence of spouses of international students on college and university campuses may heighten the sensitivity toward the needs of this particular population. With nearly 23% of international graduate students arriving in the United States accompanied by their partners, international and academic advisors should integrate knowledge about spouses' issues and challenges into their work with international students.

2. In addition to offering support programs primarily geared toward spouses of international students, additional support could be provided for couples arriving for the sojourn together. This may include adequate pre-arrival information for international students about living and studying in the United States as a couple, as well as providing information geared toward spouses of international students that adequately addresses the challenges of living in the United States on a dependent visa status. Fowler & Silberstein (1987) noted that an overseas move has the potential to completely disrupt a family unit due to the lack of social and emotional support. The authors suggest that staff working with international families ought to engage in "stress inoculation" training in the preparatory phase of a move in order to help families make their adjustment more successful (e.g., Meichenbaum, 1985).

3. While social support remains an important component of well-being, marital satisfaction could be taken into consideration while developing spouses' services. Upon arrival, orientation sessions for sojourning couples could be held by international student offices, and information for family support could be disseminated in major languages spoken by international students. These may address some of the challenges that couples could potentially face during their sojourn together and solutions they make take, including couples counseling. Information could include topics such as domestic violence and partner abuse, and couples could be directed to appropriate resources in the event that they encountered these issues.

4. Connecting international student spouses via a separate listserv may assist in establishing a sense of community and connection to the university. The listserv could connect spouses to the university by disseminating information about events. It may also serve to provide tips and assistance among its members. A number of private and state universities have successfully initiated listserv and spouses' and partner programs, including MIT, Harvard, Yale, and UC Berkeley.

5. Spouses of international students may be reluctant to seek counseling. Therefore, international families could be provided with information about the nature and process of counseling. Outreach activities by counseling centers to disseminate information about the nature and purpose of counseling could be included with the provision of services by international staff members.

6. Spouses' programs may address the career role changes that spouses undergo by providing career planning courses geared toward this population. Spouses on J-2 dependent visas may benefit from learning about job search strategies and practice interviewing techniques to enter the United States job market. Spouses on visas that prohibit them from working in the United States may be assisted by long-term career planning resources that would allow for them to create and integrate activities during their sojourn (e.g., volunteering and skill-enhancing activities). In order to do so, spouses should be eligible to receive services at campus career centers as part of their husband's academic training. Similarly, career services for spouses could be offered through international student offices.

7. Spouses may experience limited access to university counseling centers. Most university counseling centers offer services solely to registered, full-time students, which excludes the

spouses' population. In order to assist spouses and international students alike, spouses should be able to receive services both individually and as part of a couple.

Future Research

The goal of this study was to establish a basis for understanding the relationship between stressors, stress buffers, and stress outcomes among spouses of international student spouses. Due to the lack of previous empirical research with spouses of international students, the nature of this study was exploratory. It is among the first studies to collect data from a sample of spouses across the United States. Fowler and Silberstein (1989) noted that "although the field has advanced its understanding of family dynamics, family stress, and coping, very few mental health models are being applied specifically to the dynamics of families undergoing the stress of relocation to a foreign environment" (p. 119). In order to broaden the understanding of sojourning spouses, additional research comparable to the present study will be necessary.

Further research may include:

1. A replication of the present study with spouses of international students who are accompanying their partners to the United States. This study collected data from female spouses only. Future research may include a comparison of spouses' experience by gender and comparison with non-international students. Cross-cultural comparison, e.g., with spouses sojourning in Canada under different visa regulations, may also aid in understanding the adjustment process of spouses of international students in the United States.
2. A replication of the present study utilizing questionnaires that were translated into the main languages of international student spouses' populations. This may ensure access to segments of the spouses' population who were unable to complete the survey administered in English.
3. A replication of the present study examining the relative contribution of marital satisfaction and social support in samples of spouses and their international student partners.
4. A replication of the present study employing a mixed method approach in order to identify potential stressors and empirically validate stressors across a variety of international student spouses' samples.

5. Research utilizing a longitudinal and/or sequential approach in order to identify changes to factors influencing the sojourn (potential stressor, marital satisfaction, social support, psychological distress) across the duration of the sojourn.
6. Research identifying factors that contribute to positive adjustment, including personality factors.
7. Research examining the potential crossover effect of spouses and partners in the adjustment process (Caligiuri, Hyland, Joshi, & Bross, 1998; Fukuda & Chun, 1994; Takeuchi, Yun, & Tesluk, 2002; Shaffer, 1996).
8. Similarly, research addressing family stress and family coping. What makes some couples more successful at adjusting to the cross-cultural transition than others?
9. Examine help-seeking behavior among spouses of international students in order to develop appropriate intervention models.
10. Research addressing cultural differences in the expression of mental health symptoms and perception of social support and marital satisfaction.
11. Assess cultural orientation, e.g., collectivistic versus individualistic orientation in relation to stressors, stress buffers, and stress outcome (e.g., Markus & Kitayama, 1991).
12. Assess level of acculturation of spouses and partners in relation to stressors, stress buffers, and stress outcome (e.g., Chang, 2004).
13. In research on international students, include marital status of participants in order to compare the adjustment process of international students who arrive on their own to that of partnered students.

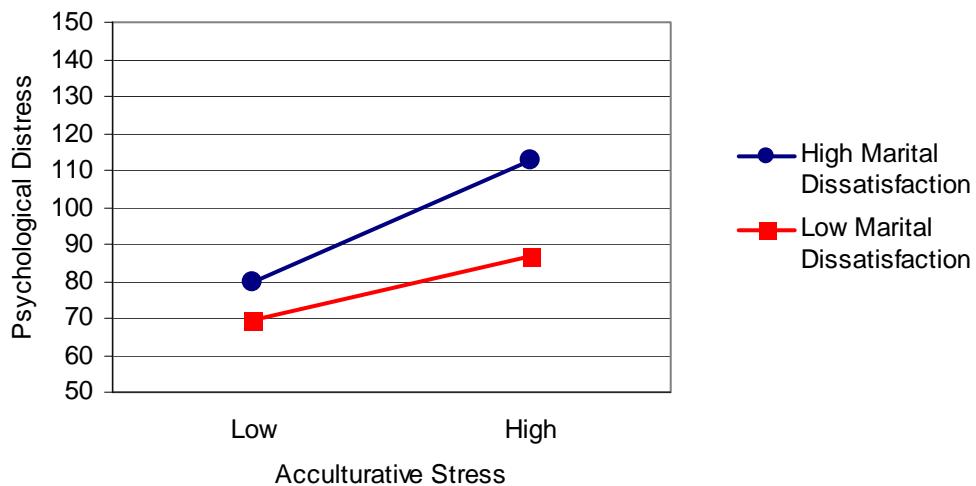


Figure 5 – 1 Predicted psychological distress means by acculturative stress and marital dissatisfaction. Original BSI-scale.

APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

What is your age (e.g., 25, 36, etc.)?

What is your gender? Please select: male/female

What is your legal home country? (e.g., India, Spain, China, etc.)

What is your ethnicity/race (e.g., White, Black, Asian, etc.)

What US state do you live in? (e.g., Florida)

What is your visa type? (e.g., F-2, M-2, etc.)

What is your native language(s) (e.g., Spanish, Chinese, Portuguese, etc.)?

What is the highest level of education that you have completed?

1	Some High School	4	Graduated College
2	Graduated High School	5	Master's Degree
3	Some College	6	PhD

In what month/year did you and your husband get married? (e.g., May, 1997)

When did YOU come to the USA? (e.g., January 2004)

When did your husband come to the USA? (arrived together OR month/year)

Do you have children, yes/no

How many children live in the US with you?

How did you decide to come to the USA?

1	My husband and I made the decision together
2	My husband made the decision because it was important for his career
3	Other: please type in field below

For me, moving to the US was:

1	desirable	2	undesirable	3	hard to say
---	-----------	---	-------------	---	-------------

Did you have a job/career in your home country before moving to the US? YES / NO

If yes, how long did you work in your job?

1	Less than 1 year	3	3-5 years
2	1-3 years	4	More than 5 years

What services does your husband's university offer for spouses of international students?

(circle all that apply)

1	English classes	5	Online information
2	Spouses Groups	6	Family programs
3	Advising	7	Other:
4	Spouses Welcome Orientation		

Have you participated in any of these services? If yes, which ones?

What personal goals do you have for your stay in the US? (Circle all that apply)

1	Raising children	5	Traveling
2	Learning English	6	Finding a job

3	Making Friends	7	I have no goal
4	Going to University	8	Other:

If you chose more than one goal above, please indicate your top choices:

1
2
3

What is your husband's area of study?

1	Business and Management	4	Physical and Life Sciences
2	Math/Computer Sciences	5	Social Sciences
3	Engineering	6	Other:

What type of university does your husband study at?

1. private
2 state

Please estimate the total number of student enrollment at your husband's university:

Below 10,000
10-20,000
20 – 30,000
30-40,000
above 40,000

On a scale of 1 to 10, how easy or hard was it for you to understand the English in this survey? (easy = I understood everything; hard = I had a lot of difficulty understanding the language in this survey)

APPENDIX B

INFORMED CONSENT FORM

Informed Consent

Protocol Title: Adjustment of spouses of international students.

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study: To understand the cross-cultural adjustment of spouses of international students and how their unique situation impacts their well-being.

What you will be asked to do in the study: You will be asked to complete a survey about your experience of living in the United States as a spouse of an international student.

Time required: 30-45 minutes

Risks and Benefits: There are no immediate risks or benefits for participating. No more than minimal risks.

Compensation: There is no scheduled compensation for participating.

Confidentiality: Your identity will be kept confidential, which means that I do not know who you are. Your information will be assigned a code number. To ensure confidentiality, please do not enter your name or any other identifying information. When you have completed the on-line survey, close your browser window to ensure that no one else can view your responses.

Voluntary participation: Your participating in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study: You have the right to withdraw from the study at any time without consequence.

Whom to contact if you have questions about the study: Monica Bigler, M.S., University of Florida, Department of Psychology, P.O. Box 112250, Gainesville, FL 32611, bigler@ufl.edu. Supervisor: Dr. G. Neimeyer, 258 Psychology Building, Department of Psychology, University of Florida, 32611, 352-392-0601 x257, neimeyer@ufl.edu.

Whom to contact about your rights as a research participant in the study: UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; ph (352) 392-0433

Agreement: By clicking the link below, you are indicating that you voluntarily agree to participate in the survey. If you do not wish to participate, please close this page. Copies of this informed consent can be acquired by contacting Monica Bigler (bigler@ufl.edu) or simply by printing this screen by pressing your browser print button.

Approved by
University of Florida
Institutional Review Board 02
Protocol # 2006-U-0631
For Use Through 07/10/2007

APPENDIX C IRB PROTOCOL



Institutional Review Board

FWA00005790

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PO Box 112250
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DATE: July 14, 2006

TO: Monica Bigler
PO Box 112250/PSY
Campus

FROM: Ira S. Fischler, Chair, IRB
University of Florida
Institutional Review Board

SUBJECT: Approval of Protocol #2006-U-631

TITLE: Adjustment of Spouses of International Students

SPONSOR: None

I am pleased to advise you that the University of Florida Institutional Review Board has recommended approval of this protocol. Based on its review, the UFIRB determined that this research presents no more than minimal risk to participants, and based on 45 CFR 46.117(c), authorizes you to administer the informed consent process as specified in the protocol.

If you wish to make any changes to this protocol, including the need to increase the number of participants authorized, you must disclose your plans before you implement them so that the Board can assess their impact on your protocol. In addition, you must report to the Board any unexpected complications that affect your participants.

If you have not completed this protocol by July 10, 2007, please telephone our office (392-0433), and we will discuss the renewal process with you. It is important that you keep your Department Chair informed about the status of this research protocol.

ISF:dl

An Equal Opportunity Institution

APPENDIX D

PARTICIPANT LETTER

Invitation (Email message to be forwarded to spouses of international students)

Dear Participant:

I am Monica Bigler, an international student from Switzerland. In 1995, I came to the United States as a spouse of an international student. Since 1998, I have been studying for my PhD in Counseling Psychology. I am conducting a research study to understand the experience of spouses of international students while living in the United States.

I am requesting your participation in this research, which will involve approximately 30-45 minutes to fill out an on-line questionnaire. The results of this study will be used to help design services for spouses of international students.

If you are a spouse of an international student and years old or older, your participation is greatly appreciated. Please go to the following website address and complete the survey packet:

WEBSITE ADDRESS

If you have any questions regarding the research study, please call me at (352) 359-0322.

Thank you very much for your assistance with this research.

Sincerely,

Monica Bigler, M.S., MAMC
Doctoral Candidate
Department of Psychology
Psychology Building
University of Florida
Gainesville, FL 32611

Approved by
University of Florida
Institutional Review Board 02
Protocol # 2006-U-0631
For Use Through 07/10/2007

APPENDIX E PARTICIPANT FLYER



To Spouses and Families of International Students



I AM LOOKING FOR YOUR HELP WITH MY RESEARCH

- ❖ What is important to spouses of international students?
- ❖ How do spouses experience life in the USA?

My name is Monica Bigler, and I am an international student at the University of Florida where I am completing my doctoral degree in the Counseling Psychology Department. I came to the US as a spouse of an international student myself and have been an international student since 1998.

I am conducting a research project on the experience of spouses of international students. The goal of the study is to find out how spouses experience their stay in the US and how it could be made better.

If you are a spouse of an international student, you can participate in this research project by completing an on-line survey at:

<http://survey.psych.ufl.edu/bigler/>

If you are an international student and study in the United States with your family, please pass this flyer along to your spouse. THANK YOU!



For more information,
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BIOGRAPHICAL SKETCH

Monika Bigler was born in 1968, in Thun, Switzerland. As the first member of her family to complete a baccalaureate degree, she attended the University of Basel, Switzerland, where she studied German Linguistics and Literature. In 1995, she moved to the United States and first attended Santa Fe Community College in Gainesville, FL. She then enrolled at the University of Florida and completed her bachelor's and master's degrees in psychology from the Department of Psychology at the University of Florida, Gainesville, FL. During her enrollment as a doctoral student in counseling psychology, she also trained for a Master of Arts in Mass Communication in the College of Journalism and Communication at the University of Florida, with a specialization in documentary film production. Monika Bigler is currently a psychology instructor at Inver Hills Community College in Inver Grove Heights, MN, and a career planning instructor at the University of Minnesota, Minneapolis, MN. Upon completion of her Ph.D. degree, she will continue to work in the field of career counseling.