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## Asian-Indian Female International Students: A Photovoice Study of Health and Adaptation to the Immigration Experience

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### Abstract

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### Keywords

Photography, Photovoice, Asian-Indian People, Cultures, International Students, Health Beliefs and Behavior, Women's Health

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## Asian-Indian Female International Students: A Photovoice Study of Health and Adaptation to the Immigration Experience

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*The purpose of this study was to explore the health related perspectives of female Asian-Indian international students enrolled in a mid-size public university in the United States. Using the biocultural model of human adaptation and photovoice methodology, we conducted a two-phase qualitative exploratory study whereby participants were interviewed, then asked to take photographs reflecting their physical or mental health. Their photographs and related narratives provided insights into the students' health related beliefs and coping behaviors as they adapted to a new physical and social environment. The knowledge gained from this study provides health care professionals, counselors, and educators insights that might be helpful in providing culturally sensitive care and services to Asian Indian women living in the United States for the purposes of higher education. Keywords: Photography, Photovoice, Asian-Indian People, Cultures, International Students, Health Beliefs and Behavior, Women's Health*

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International students make important economic and cultural contributions to host colleges and universities in the United States and in many other developed countries. According to Open Doors (Institute of International Education, 2014), India was second only to China, among the leading countries of origin for international college students studying in the United States during the 2013/14 academic year. In that year international students contributed about 27 billion dollars to the United States' economy. About 102,673 (12 %) of the total were Asian Indians. In spite of their growing presence on college campuses, Asian Indian students in particular, have received limited attention by researchers. This study was a response to the significant growth in enrollment of Asian Indian students at the home university of the investigators and to a preliminary literature review, through which some gaps in the extant knowledge base regarding these students were identified.

The purpose of our study was to explore health related concerns and perspectives of a group of female Asian-Indian international students enrolled in graduate and undergraduate programs in a midsize public university in the south central region of the United States.

### Theoretical Framework

The major theoretical underpinning for this study is the biocultural model of human adaptation, as it relates to maintaining health. The biocultural approach emerged from the field of human biology in the 1960s (McElroy, 1990), and involves a feedback system through which biology and culture interact. Nursing theorist Callista Roy defined health as adaptation, reflecting the view that optimal health is a result of an individual's ability to adapt or to cope effectively in any physical, social or cultural environment (Roy, 2011). It is helpful to reflect on the concept of culture and its function when attempting to understand how deeply integrated values, beliefs and practices might affect the ways in which international students respond to health related challenges in a new setting. Kagawa-Singer and Kassim-Lakha (2003) explain that the function of culture is to assure the survival of its members within a particular ecologic niche. Health beliefs, including the means used to maintain health and to respond to illness are

culturally based but are also influenced by biological factors. When individuals move from one eco-niche to a different one, they are required to adapt to the new milieu and the level of adaptation achieved often determines overall health, and ultimately their ability to achieve life goals. Our assumption in using this model is that the immigration process involves a major adaptation to a new environment involving both biologically and culturally based behaviors. The degree to which immigrants are able to adapt is a determinant of their short and long-term physical and mental health.

### **Literature Review**

The literature search focused on locating those studies that included Asian international students and particularly those in which Asian Indian international college student study participants were identified separately from other Asians. Of the 17 articles we reviewed that were published between 2000 and 2010, only three categorized Asian Indians separately from other Asians in the analyses, only two categorized male and female data separately, and only one used a qualitative methodology. Asians represent an ethnic mix of diverse cultures including Chinese, Koreans, Malaysians, Bangladeshis, and Pakistanis, each with different histories and cultural characteristics. The “lumping” of diverse ethnic groups under the umbrella term *Asian* risks the obscuring of ethno-linguistic influences that reflect unique life experiences and belief systems. Another concern is the paucity of studies that are gender-specific - a problem having the potential for missing what could be important differences between male and female participants (Fatima, 2001). Survey studies are by design, frequently neglectful of examining the influence on health of integrated cultural beliefs and values that influence health seeking and illness behaviors. Chattopadhyay (2007) writes that there has not been “... sufficient critical inquiry into understanding the implications and consequences of incorporating religion and spirituality into health and medicine in the Indian context” (p. 263). Several authors have criticized the question sets in survey type methodology for the frequent use of western terminology based on western assumptions. Western - oriented research tools, may not yield valid findings for other cultures (Gerstein & Ægisdóttir, 2007; Tipandjan, Schafer, Sundaram, & Sedlmeier, 2012; Weber & Hsee, 2010). These criticisms led us to conclude that a qualitative study of female international student participants from India might contribute richer and more culture-specific information missing from previous studies.

### **Religion and Health Traditions**

The Hindu religion and the traditional Ayurveda health system are fundamental to the worldview of many Asian Indian people and may have important implications for the short and long-term health of international students. Ayurveda practitioners approach health and illness holistically- different from the more disease-centered reductionist approach that dominates western medicine (Nisula, 2006). Several studies have revealed that Asian females in particular, bring emotional problems to the medical practitioner, in part because of their difficulty in discriminating between physically “feeling bad” and emotionally “feeling bad” (Navsaria & Petersen, 2007). One characteristic often associated with Asian populations is perfectionism. Some studies conducted among American college students have found a link between perfectionistic thoughts, feelings, and behaviors and stress (Nilsson et al., 2008; Lynd-Stevenson & Hearne, 1999). International students arriving from Asian countries that have a collectivist orientation and where education is highly valued, may feel extra pressure to excel, which may be maladaptive, depending on its source and how it is managed (Toshitaka & Laird, 2014).

## Developing Connectedness

Many studies of international students have indicated that friendship has a powerful influence on students' well-being by reducing loneliness and homesickness and helping them to cope with the stresses involved in the move to a new culture. Findings from several studies indicate that while establishing friendships with co-nationals is an important source of comfort and support for international students, establishing friendships with host nationals is a central predictor of overall satisfaction with their student experience. Most international students desire friendships with local students, but often experience difficulty in developing them (Campbell, 2011; Sakurai, McCall-Wolf, & Kashima, 2010). Gareis (2012), reported that nearly 40 percent of a sample of international students in the United States stated that they had no close American friends yet expressed the desire for more such friendships. Of student participants who expressed dissatisfaction with the quantity and quality of friendships with American students, 32 percent cited superficiality and another 25 percent cited a lack of open-mindedness and interest in other cultures among American students, as the most important barriers to developing friendships. In addition to the challenges related to establishing friendships with host nationals, Andrade (2006) found that international students expressed concerns about a lack of faculty responsiveness - that faculty often misinterpreted the behaviors of international students and that students would benefit if their instructors had a greater understanding of their academic, social, emotional, and psychological challenges.

## Health Beliefs and Health Seeking Behaviors

We located only one study to date in which the authors empirically explored health seeking behaviors, and related beliefs specifically. In a study of Chinese, Asian Indian, and American international students, Rothstein and Rajapaska (2003) used three question sets to compare students' views regarding staying healthy, illness behaviors, and their level of confidence in health professionals and institutions. While the three groups ranked "eat proper kinds of foods" as among the most important factors for staying healthy, more Indian than American students thought that food was "very important" and there were differences in the way "proper kinds of foods" were described. In American students the emphasis was on the overall nutritional value of food while Indians were more specific about healthy food choices, stressing the importance of botanicals for achieving a balance among the three bodily humors called *doshas*. In the area of spirituality, Indian Asian international students attached more importance than did China-born students to religious faith and expressed relatively more confidence in their families and friends in helping them recover from illness.

According to the World Health Organization (2011), the leading causes of death among Asian Indian women generally reflect those of American women. It is important to note however, that recent data indicate that suicide death rates in India are among the highest in the world. According to a study conducted in 2010 (Patel et al., 2012), a large proportion of suicide deaths occur between the ages of 15 and 29 years, with women's rates proportionately higher than men's at 40% and 56% respectively. Of particular interest for international students who often represent wealthier classes, is the finding that death by suicide is more common among individuals from richer Indian states and those with relatively higher education levels.

## The Present Study

In findings from previous studies, the sequential use of the two qualitative data collection methods, a group interview followed by the photovoice (PV) method, has been found to have the potential for producing more and sometimes richer data than when either method

is used alone (Cooper & Yarbrough, 2010). Photovoice is a research method in which study participants are asked to use the camera to record their real-life experiences. It is a participatory, qualitative, action-oriented method with the goals of enabling participants to visually record and reflect on personal or group strengths and concerns and to use the visual images as a focus to promote critical dialogue with others (Wang, Burris, & Xiang, 1996). The roots of the PV method can be found in the writings of Brazilian educator Paulo Freire (1970) who emphasized the importance of visual images as a way to provide people with the opportunity to speak from their own experiences, and to think critically about their lives through the sharing of these experiences.

### **Study Context**

As nurses, we understand that students' physical and mental health is fundamental to academic and personal success. In our experience teaching students from a variety of cultures, we became aware of the contrasting ways people think about health and illness. We noted that the students' expressed differences in perceptions about disease causation and that these often appeared to result in different approaches to coping with illness and in maintaining health. Because we had previous experience using a combination of two qualitative methodologies, a group interview followed by photovoice, in exploring health perspectives transculturally we decided to use that approach for this study. We believed that information about the ways these students perceive, cope with, and adapt to this new environment would be useful to health care providers, counsellors, and educators in providing culturally sensitive and effective care and services that might reduce stress and promote the students' healthy adjustment.

### **Methods**

Participants were recruited purposively using the snowball method through word of mouth and campus announcements. The inclusion criteria for participation were that the participants be female, self-identify as an Asian-Indian international student, proficient in English, and currently enrolled in graduate or undergraduate classes at the university. The final participant group was composed of seven women between the ages of 21 and 26 years. All were born and grew up in India and had been living in the United States from four months to four years as international students on educational visas.

The research team was composed of two female co-investigators, both full time faculty members actively teaching courses in health sciences, and one senior student research assistant. Both researchers were experienced in conducting traditional focus groups and the photovoice method. The research assistant was a female Asian Indian international student who was fluent in Hindi and English and well known by most of the target population of Asian Indian students. The principle investigator served as the focus group facilitator.

The institutional review board (IRB) of the university approved this study. At the beginning of each phase of the study we explained our purpose – that of exploring the health and wellbeing of international students as they adapted and continue to adapt to life in new surroundings. We further explained that our role was not that of teachers, but rather that of learners, and that we considered their role to be that of experts on the challenges they faced in adjusting to academia and to American life and culture, and on how these challenges influenced their health and well-being. We added that we hoped that our questions and the responses they provided would be helpful to them in terms of giving voice to their thoughts, and in sharing these thoughts with others. We further explained that we as researchers, had an obligation to assure that their responses to our questions would remain confidential. We informed them that a summary of their responses might be used for educational purposes and possibly published

in a research article. Regarding phase two, we informed them that some of their photographs might be shown in the classroom and might also be published, but that those would not include any identifiable individuals, nor would the name of the photographer be revealed. These details were provided both in the written informed consent document and verbally. Several minutes were allowed for questions and clarification.

## **Design and Procedures**

The research design was a qualitative exploratory descriptive design and a variation of the two-phase “*tell me–show me*” PV method (Cooper & Yarbrough, 2010). Phase one involved a focused group interview where a set of semi-structured questions were posed. The questions related to current and past health status, beliefs and behaviors related to preventing disease and promoting health, and attitudes towards health care providers. Phase two was conducted two weeks later, and involved the use of participant photographs as a stimulus for group discussion. We avoided a rigid approach during both phases, encouraging participants to express themselves freely with the facilitator acting as a guide to orient the responses towards health and health-seeking behaviors. We were particularly interested in how the photographs and accompanying narratives might reveal underlying values, beliefs and attitudes towards health and illness and ultimately provide information about the adaptive process.

### **Phase One: *Tell me***

It should be noted that the group interview conducted in phase one had a somewhat different aim from traditional focus group interviews, in that it served as an orientation to the photographic activity that followed. We believed that the group discussion would be of some benefit to the participants by allowing them to share their experiences with each other and with us, in a focused way. With this in mind, the interview questions were designed not only to aid the researchers to identify issues and concerns of the participants, but also to encourage the participants to view themselves as experts on the immigration experience, in the belief that they would increase their personal awareness of the challenges involved.

The group discussion was conducted in a campus classroom in the early evening. At the beginning of the session, the facilitator reviewed with the participants the purpose for the study, emphasizing that the questions posed would be directly or indirectly related to their physical and emotional health and wellbeing. The entire session was audiotaped. Using a semi-structured interview guide, the group facilitator posed questions and follow-up probes. The co-investigator and the student research assistant took detailed notes for each response. At the conclusion of each question set, the facilitator summarized the responses and participants were asked to correct or clarify specific items if they identified errors or omissions. During the response period, the student research assistant (RA), after consulting with the facilitator, occasionally translated some colloquial English words and phrases into Hindi, to assure that participants understood the follow-up comments and probes. The RA also assisted in helping the facilitator to clarify any words or phrases that were difficult to understand because of linguistic differences in definitions or in pronunciation. The participants were asked to respond to ten major questions, drawn from the researchers’ experiences listening to student comments in health oriented class discussions, and from research journal articles involving health beliefs and concerns of international students. The first four questions related to the participants’ perceptions of their personal health status, their beliefs about personal health risks, and their beliefs about why people in general get sick. For example, the first question was posed in this way: “Most of us worry sometimes about getting sick. Which illness or disease worries you most- which one might you most dread or be most concerned about?” The six remaining

questions asked the students to describe individual concerns about contracting a specific disease or other health threatening condition; to describe some of their health-seeking and illness behaviors - for example “what do you do to stay healthy and what do you do when you first feel sick?;” to describe specific self -treatment modalities they might use before going to a doctor or clinic; to explain their rationale for their self - treatment choices; and finally what health-related or other concerns they might have about returning to India and about specific challenges the repatriation process might present for them.

### **Phase Two: *Show me***

This session was conducted two weeks after the phase one component, in the same college classroom setting. Preparation for this phase occurred at the end of the first group interview by providing a guide and instructions. All participants owned a cell phone with an integrated camera so additional equipment was not necessary. The facilitator reminded the participants of the purpose of the photographic activity and to select at least four photos for display. Selected digital photos were displayed on a large computer screen at the front of the classroom. Using the iconographic approach, which allows the participants freedom to describe or explain the image in a natural way (van Leeuwen, 2001), the facilitator asked each participant to describe when and where each photo was taken and to discuss the meaning ascribed to the photo in terms of health and wellbeing. The question was posed in this way, “why did you choose that particular subject or image and how does it relate to your own health and wellbeing and/or to that of other Asian Indian students like you?” Time was allowed for the other participants and instructors to add their own responses to each image in a process described as “deconstructing their world as represented by the images” (Smart, 2009, p. 203).

### **Analysis**

We used the thematic analysis method (Tashakkori & Teddle, 2003) for both phases of data collection. The RA audiotaped and transcribed verbatim each of the two group sessions. All data from the audiotaped transcripts along with notes made by the research team members were included in the analysis. For phase one, the data were organized by the ten questions posed during the traditional focus group session. The research team familiarized themselves with the data by reading and rereading the transcript in its entirety. During this reading phase, both researchers working independently wrote comments and memos in response to the data. The data were then coded line by line and segregated into two areas – data solicited by the question guide referred to by the researchers as factual data (for example, “what do you do when...?”), and data suggesting related beliefs and values. These codes were then aggregated into themes or categories. The two researchers compared their data analyses and discussed any discrepancies, reviewing the data until they reached consensus.

For phase two, the data were organized by the photographs taken by each participant. Coding proceeded from a review of the line-by-line transcripts of photo - related reflections. Codes were identified and segregated into separate comment sections for the photographer, other participants, and the researchers. The research team collaboratively clustered similar codes into three major themes or categories described in the findings section. Similar to phase one, data from phase two were first reviewed individually by each member of the research team and then in conjunction with one another to identify similarities, differences, and review until a consensus was reached.



## **Addressing Rigor and Trust**

Rigor and trustworthiness were addressed in the context of the FACTS mnemonic developed by El Hussein, Jakubec, and Osuji (2015). Regarding fittingness or transferability (F), we depended on our general knowledge about and previous experience with international students, and in particular those from India. There were of course limitations in that the number of participants was relatively small, they were all female, and our campus was located in a relatively small city where students might not reflect the thinking of those who had chosen a more sophisticated and diverse academic setting. Auditability (A) was addressed by retaining all notes and audiotapes taken by the two investigators and by the research assistant. Credibility (C) was addressed in two ways. First, we reviewed the participant responses with them at the end of both data collection phases, in an attempt to assure that our notes accurately reflected their statements. When there appeared to be uncertainty about any questions or comments we presented to them, we asked the RA to repeat the questions in a different way, while retaining the essence of our statements. Trustworthiness (T) was addressed through careful attention to fittingness and credibility as described previously, and saturation (S) was assured by the iterative process of reading and rereading participant responses until we agreed that any additional information was redundant. We have provided frequent verbatim responses from participants that we believe, accurately reflected our individual impressions and understanding. The majority of participants' reflections, though sometimes anecdotal, were for the most part, shared by the other participants.

## **Findings**

### **Phase One**

The findings with relevant response information are discussed below in roughly the order the questions were posed. Follow-up prompts to each question frequently resulted in some overlap of categories.

### **Health and Illness Beliefs**

Although phase one questions were quite specific, participants were encouraged to reflect broadly and to digress from the specific questions as they wished. We identified five dominant health related themes that emerged from the responses. These were: the importance of family at home as a major resource for health information and advice; the beliefs about the importance of diet and a de-emphasis on exercise for maintaining health and preventing disease; the practice of using traditional modalities, especially botanicals, for self-treatment, although often supplemented with modern over the counter treatments locally available; a general reluctance to discuss mental illness; and an overall negativity towards accessing local clinics and health providers. The responses to the question about their fears related to contracting specific diseases, generally reflected current Indian chronic disease morbidity and mortality data, with cancer being most feared. Other diseases of concern were diabetes, kidney disease, heart disease, Alzheimer's, "any viral fever," and the common cold, "because it disturbs the whole day and ... you still need to work or study." When a follow-up question was asked about mental illness, as a group, the participants appeared reluctant to discuss the issue, saying that mental illness was viewed as "shameful," and that there were few resources in India for the mentally ill.

Overall, the participants rated their current health on most days as 4.2, using a Likert scale with 5 (indicating "very good" health) and 1 ("very poor" health). In contrast, their self-

perception of their individual health status in India was rated as a mean score of 3.2. The primary reason provided was that the air was cleaner in the US.

To discover the students' causal ontology with respect to illness we asked, "Why do you think people (in general) get sick?" Without hesitation "improper diet" was identified as a primary cause of disease and illness, along with "tension" and "stress." The word "improper" implied very precise ways in which a diet influences health.

The two related questions "what are your major sources for health information?" and "what do you do first when you get sick?" resulted in a lengthy discussion. The findings included the importance of family as a health resource, reasons for dissatisfaction with the campus health clinic, and specific home remedies they used for particular ailments. Without exception, participants relied primarily on relatives as the major source of health information and guidance as to what to do when illness occurred. Participants usually called parents in India or relatives and knowledgeable friends living in the United States. Calls back home to India were considered "ordinary" and were made regularly, during the "cheaper" time-periods. Another source of health information was the internet, primarily Google. The majority reported that they first "googled" their symptoms but used the internet only as an "overview" and did not completely trust the information at the level they trusted the advice of family and friends.

Self-treatment choices came from many traditional antidotes (referred to as "house remedies"), such as "gulping down" a ball of turmeric mixed with vegetable oil to relieve menstrual discomfort. Other detailed explanations emerged as to which botanical should be used for which specific ailment. There was general agreement that there was a distinct difference between eating *too much* food and eating the *wrong types* of food, and successful treatment depended on knowing which was which. There was also much emphasis placed on "eating on time" – that is not skipping meals, and on the importance of getting plenty of sleep when feeling ill. Participants also indicated they had medical "kits" brought from home that included antibiotics to be used when an illness was accompanied by fever. Common pharmaceuticals such as Tylenol were used for headaches, but these were often supplemented by botanicals from their kits.

When asked about their perspectives related to treatment seeking behaviors, they unanimously agreed that accessing health care locally was not ideal. Of particular note was the general negativity towards the health clinic and other health provider experiences in the United States. The major objections were "needless questions" and the comprehensive physical exam they had to "endure" when all that was needed was to "look in my aching ear and don't examine my feet." Physical assessments were viewed as often inappropriate and as overly intrusive and unnecessary.

## Other Challenges

This topic began with a stress-related question, with "stress" framed as "difficult things to get used to" in order to orient the participants to the stresses related to overall adaptation and acculturation, rather than the more specific stress of academic life experienced by most college students. The findings revealed unanimous agreement that the most difficult challenges were "what to wear" (jeans and T-shirts or traditional tunics); where to find traditional Indian foods and spices; learning how to cook; getting used to the "rules of the road" (pedestrian in particular), and the difficulty in going off campus because of inadequate and inconvenient public transportation. A follow-up question asked about what might be the most difficult challenges when readjusting to the home culture, if and when they should return to India. Relinquishment of the relative independence they experienced in the United States was identified as the most difficult challenge— "*in India we do what our parents want....*"

## Discussion - Phase One

Students' expressed views about what constitutes a "proper diet" seemed complex for the researchers, but for these participants was dealt with in a "matter of fact manner," as common knowledge, and clearly reflected broader beliefs about the importance of various foods to bring the bodily functions into "balance" (a word frequently used in the responses). The word "stress" was not deconstructed but respondents seemed to imply that stress for them involved "worry" and "tension," usually related to academic demands, but also to everyday life. The influence of the Asian-Indian Ayurveda system was evident in discussions of illness behavior, but the syncretism of the system was also evident in their use of over the counter medications such as Tylenol and Benadryl.

It was difficult for us to clearly grasp the nature of the fundamental discomforts expressed as "we don't like to go to the clinic," referring to the care provided by the campus health clinic. We could only speculate, based on our impressions from earlier discussions about health seeking and illness behaviors that the complaints may reflect in part, the precise and personal approach to illness as practiced by Ayurveda practitioners who strive to look for the root cause of illness as represented by the three *doshas* inherent in the Ayurveda system. Perhaps from the patient's perspective the providers' focus is faulty – perhaps something like focusing on the "wrong" dosha. For example, when the complaint is a sore throat associated with the common cold, an illness believed to be caused by an imbalance involving the digestive system, examining the feet might seem pointless and intrusive. Because western physicians frequently minimize the importance of the environment as a risk factor, the Asian Indian patient's discomfort may reflect the thoughts of an ancient Indian practitioner, Charka who said, "A physician who fails to enter the body of a patient with the lamp of knowledge and understanding cannot treat diseases. He should first study all the factors, including the environment, which influences a patient's disease, and then prescribe treatment" (Bhungalia & Kemp, 2002, p. 56).

Another factor possibly influencing the negative view of U.S. health care providers may stem from the prevailing attitudes towards doctors and nurses in India. The participants reported that there is a general lack of respect for nurses in India and that doctors were "like gods." The role of nurses in the U.S. health care system is relatively powerful compared to that of Indian nurses, and nurses are sometimes the only health provider with whom they directly communicate during a clinic visit.

The participants' perceptions of risk and concern about specific diseases revealed that chronic disease was a major concern, appearing to reflect the epidemiological transition in India especially among those of higher socioeconomic status. Doing the right thing among the study participants meant attending to restoring balance. All participants expressed this in some way. There was no mention of exercise as an important factor among the study participants. Although they stressed individual responsibility in maintaining health there was a notable absence of a blaming attitude towards individuals experiencing poor health.

The responses of the study participants to a question about current health status was surprising, in that we assumed that the stress of immigration might result in lower self-identified scores of current wellness. The students' comments about the challenges of adjustment to American culture and concerns about repatriation may represent the conflict between the traditional life of the collectivist tradition and their newfound independence in the United States.

## Findings - Phase Two

The study participants presented thirty-one photographs. Twenty-six were taken by individuals (an average of four photos each). From the diverse images presented, we identified three distinct themes that seemed to be implicitly or explicitly related to the emotional or physical health of the participants, to the challenges of the immigration experience, and to the variety of ways the participants coped with these challenges and adapted to the new culture. For this paper, we selected the photographs that seemed to most clearly reflect the identified theme according to the participants' verbal explanations, to the photo tags they used, and that were affirmed by at least two other participants. In this way, we attempted to assure that the themes accurately represented the thoughts and feelings of the group as whole rather than unique cases.

### Theme one: Preserving spiritual values and the restorative value of nature

Several photos depicted the challenges of preserving spiritual and traditional religious practices, with an emphasis on the importance of the natural world in maintaining one's connectedness to God and to spiritual values. We collapsed these two subthemes into one because they emerged as closely related. Eight photos seemed to clearly reflect this theme and were displayed in two categories. The first category consisted of images of *pujas*. (Figure 1) Pujas are ceremonial niches that contain iconic images of gods that are believed to facilitate connection with the divine. The pujas shown appeared thoughtfully designed with brightly colored cloths and symbols. They were set up in a separate area in the participants' rooms or apartments and were described as representing, "...the way our day starts and ends, praying to almighty god ...this gives a positive vibration and makes our whole day a happy one" and as providing 'mental space' through daily prayers."



Figure 1

The second category consisted of scenes from the natural world. One photo showed a peacock at a Hindu temple located in a large city a few hours from the campus. The peacock was described as the national bird of India and is believed to be "God's vehicle, like Santa Claus has a vehicle, bringing us closer to God." Two photos tagged "rain" and "night" respectively, were described as bringing "positive thoughts and feelings." The first (rain) was an image of a smiling young woman with outstretched arms, wearing a bright pink traditional tunic, and obviously enjoying the rain. The photographer described the scene in these words, "we love the rain – always an excuse to go out and play... not the way [it is] here – everyone using an umbrella to avoid getting wet." The rain photograph elicited other participant responses such as, the rain is a reminder of "...the monsoons at home in summer" ... and the

joy people feel when it rains after the long dry winter. The second photo “night,” was accompanied with the following explanation:

Usually at night it is dark but on this night there was a moon ... like the night was saying, ‘everything is going to be alright’; when the full moon is there, we do prayers - the stages of the moon tells us that there are stages of growing ... like from the new moon to the full moon ... every day is not low - even the moon says that one day it will be full so we can fill our life with hope that every day is not dark.

A discussion ensued about the role of the full moon in a specific celebration observed by married women in Northern India who keep a fast during the whole day before the night of the full moon. When a woman sees the full moon, she breaks her fast and prays for the long life of her husband. The “night” (moon) photo also stimulated a discussion about mental illness, with the participants agreeing that the moon phases are believed to cause people to “act crazy” but that (craziness) usually occurs when there is no visible moon. However, it was added that “...in the South, Chennai for example, they believed like Americans,” that the full moon was the cause of mental instability. Astrology is an important part of the Indian belief system and is given scientific legitimacy at several universities, with astrology forecasters available on almost every street in some cities (McCarthy, 2014).

### **Theme two: Coping with anxiety, fear and loneliness**

The challenge of addressing fear and anxiety related to loneliness and separation from home and family was depicted in the photos of several participants. Four photos were described by the photographers as representing loneliness mixed with some degree of anxiety. One was a photo of a closed door, (Figure 2) which reflected perceptions about American students and the emotions evoked upon seeing closed doors. The closed door represented the lack of connectedness perceived among American students saying, “at home, doors are seldom closed – people are together more. I feel lonely when I see closed doors.” A second photo showed a large expanse of grass on the campus in which there was a single picnic table with no people in sight. The photo was a reminder that in India there would be no such spaces “free of people.” The participant indicated that she greatly missed that physical closeness of others. This sentiment was depicted again, yet in a contrasting situation. The photo, (Figure 3) taken in a large city about 80 miles from the campus, showed a crowded street scene, described as one of “joy” and “fun” that was a reminder of home with all the people, crowds, and smells.



Figure 2



Figure 3

### Theme three: The stress of cultural differences, work, and academic demands

Two photos represented the perceived stress associated with academia and work, and the anxiety related to trying to balance academic demands and those of the work place. The first photo showed a participant standing beside her car, (the only one in the group who could drive). She explained that she learned to drive after arriving in the US and that it was “very scary...because of the rules.” She expressed how much she enjoyed driving - the journey as much as the destination. This was followed by an animated discussion among all participants about how “scary” vehicle traffic in India was comparatively, but the number of rules in America related to driving and pedestrians, was also “scary” and “confusing.” “In India there are no driving or walking rules, you just go when you see a chance.”

Following the display of a photo entitled “my cabin at work with my happy plant” (Figure 4), three participants began to discuss the challenge of coping with the anxiety related to academic life in the United States and the dominant student culture that is perceived as quite different from that in India. They generally agreed that American students view their academic work as secondary to jobs and relationships. For them this resulted in worry about trying to “fit in” to a student population with different priorities.



*My “cabin” at work- with my happy plant*

Figure 4

There were additional photos that reflected some subtle differences between the participants and American students regarding the relationship between what might be termed “guilty pleasures” associated with certain types of food. A participant displayed a photo of a hot fudge sundae she had eaten a few days earlier. She explained that she decided to have the sundae because it was a cold day and just because it was “a yummy delight” but admitted

feeling some guilt after eating it. Other participants unanimously agreed that they too felt guilt after eating this type of food. When asked whether eating such foods was viewed as a reward, they talked a little among themselves, and concluded that “no”-food like that was seen as a “celebration” not a reward. For example, one said, “...a celebration for finishing a project or an exam or something like that.” The idea of celebration was frequently used in other contexts throughout the group discussions.

Although there was a deeply contemplative aspect to many of their photos, not all would be described as such. For example, there was a picture of baby ducklings that the participant said, “I took this because they were so cute;” another was of a shop in the mall where the student was shopping for some clothes for a stuffed animal she had brought from home.

## Discussion

Based on the major purpose for this study, which was to discover the health related challenges experienced by these students as they adapted to a new physical, social, and cultural environment, some of our findings supported those of other researchers. Of particular significance was the importance of spirituality and of regular and frequent connection to parents and family, especially for health and illness information and support (Rothstein & Rajapaska, 2003), and the syncretic use of Ayurveda and biomedical approaches for maintaining health and treating illness (Nisula, 2006). We believe this study adds some depth to the understanding of the fundamental importance of spirituality in the lives of these students, of their deep connection to the natural environment, and of the issue of loneliness as reflected in their photographs. The loneliness expressed by these students provides an interesting contrast between the type of loneliness that might be expressed by an American college student missing family and friends. For these Asian Indian students, the loneliness includes some universal feelings of homesickness, but in some respects has a different tenor. The difference seemed to be the unique loneliness associated with empty space, empty parking lots, and vast vacant spaces with “no one to help.” Several expressed missing the safety that they believed was afforded by physical closeness. Such empty spaces are extremely rare in their homeland, a nation of over a billion people living in a space that is about one-third the size of the United States.

The findings related to health seeking behavior, beliefs about the cause of disease and about the ways to restore and maintain health in our experience, contrasted with those of American students to whom we have informally posed similar questions. For example, in comparing the American student responses to the question “why, in general do you think people become ill or get sick?” to the responses of these study participants, we found that while both groups reflected a general feeling of personal responsibility for maintaining health by “doing the right things,” American students included improper nutritional choices as only one of the problems – not of singular importance. While lack of exercise was a dominant concern among American students it was not mentioned by the study participants.

The expressions of negativity towards the campus health clinic, the diversity and specificity of “home treatments,” and the reluctance to discuss mental illness, are important considerations for the development of culturally sensitive health care for these students. Another salient finding was the mixed feelings the students expressed about their present independence and how that might affect their later repatriation and family relationships. We sensed a general feeling of openness to and acceptance of new ideas and attitudes, but achieving a balance between holding on to tradition and acceptance of the new and different appeared to influence their daily lives. It was interesting to try to understand the extent to which these students, so modern in many ways, thought about the beliefs of the women who engaged in prayer for their husbands during the full moon, a behavior that might be said to involve

“magical thinking. We did not pose this question specifically, but there appeared to be an overall feeling of acceptance of this behavior and a respect for the beliefs underlying it. Some of our findings provided information that was not found in other studies. Among these were the way that loneliness was experienced by the students, the sadness that emerges from the empty spaces, as contrasted with the safety that they feel in the physical closeness of others, and the importance of the natural environment to their lives.

### **Limitations**

The number of participants was relatively small. A larger number of participants might have provided more and perhaps richer data. Because the study participants were female, the findings are not expected to reflect male perspectives. Although the stated purpose was to explore health related behaviors and perceptions, we defined health holistically, as a physical, mental and spiritual phenomenon, which might have resulted in missing some relevant illness or disease specific information. Some of the data clearly went beyond what might be considered the health sphere. In addition, findings might be different if the study was conducted in a larger university with more international student presence and located in a larger metropolitan area. We remained aware that this group of students might be less assertive than might be the case with American students and that we as authority figures may well have influenced their willingness to share information. One notable issue that we did not specifically explore was sexuality and related concerns such as contraception and sexually transmitted infections. We thought that these issues might come up during the course of the study, but they did not, and we did not specifically refer to them in our questioning.

### **Conclusions**

The use of the biocultural approach to human adaptation was supported by the participant responses. The model's value lies in its comprehensive view of humans as biological, cultural, and social beings. The question sets brought about the emergence of examples of the interface between biology and culture. For example, questions about students' personal health status in India and after arrival, and questions about the challenges of new and different foods relate to biological adaptation. The ways in which the participants incorporated traditional beliefs with the new realities of their lives as immigrants, were demonstrated in their photographs and the accompanying narratives. Conducting the study in two separate phases using two related but different methods, allowed us to deepen our insights as the study progressed. The second phase involving the photographs, sometimes added new data and therefore new insights, but also often enhanced our understanding of responses from phase one. The findings from the study support the increased need for qualitative methodologies that allow researchers to come to understand how international students ascribe meaning to their immigration experiences, and have the potential for providing greater insight into the ways in which the students adapt to life among unfamiliar peoples and environments. Through their photography, the participants were given creative control as agents rather than as receivers of knowledge. Photos that might be considered mundane in isolation became important foci for active engagement. The photos were particularly important in revealing the ways in which spirituality was integrated into their lives and appeared to provide comfort. In an article addressing the importance of spirituality in maintaining health and coping with illness, Chattopadhyay (2007) states, “There is paucity of literature and lacuna in understanding about the interplay of religion and spirituality with health and medicine in the Indian scenario” (p. 265). We believe the findings presented here have contributed to an increased understanding of some of the health related cultural values and beliefs that Asian Indian students bring with



them to the academic setting and to the larger community. Our findings served as a reminder that although the two dominant cultural traditions associated with Hinduism and Ayurveda must to some extent be left behind, important components of these traditions remain with them and serve to sustain them as they address the challenges of their experience as educational sojourners. The students might be described as having one step in tradition and one in modernity. Understanding this has the potential for helping these students in the adaptation process. Our findings have the potential for use by future researchers in their development of more culturally relevant survey tools, for university administration and faculty to build a more positive academic experience for these students, and for health professionals to develop a more therapeutic connection with them. Because students' physical and mental health are fundamental to academic success and life beyond, understanding the influences of particular life experiences and culture on their health related quality of life, including their coping behaviors, is important for both practical concerns related to recruitment and retention, and for humanistic reasons. In addition, the findings support the use of both group interviews and photo elicitation (photovoice) for exploring the complexity of health and illness behaviors in cultures that are unfamiliar to western populations. The photovoice method in particular allows glimpses into private worlds that we would be unlikely to enter in person and that provide both additional and richer information than interviews alone.

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