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LOYOLA UNIVERSITY CHICAGO

VALIDATION OF A STRESS SCALE FOR ASIAN AMERICAN

COLLEGE STUDENTS AND VARIABLES RELATED TO

THEIR PERCEPTIONS OF STRESS

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

COUNSELING AND EDUCATIONAL PSYCHOLOGY

BY

STEPHANIE FALK

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CHAPTER I

INTRODUCTION

Asian Americans are one of the fasting growing minority populations in the United States. From 1980 to 1989 their population in the United States almost doubled, and is now estimated to number 6.9 million people (Goh & VandenBos, 1992). Likewise, this trend has permeated higher education. From 1980 to 1988 undergraduate enrollment for Asian Americans increased 75.6% (U.S. Bureau of the Census, 1992). There are now close to one half million Asian Americans in two and four-year colleges across the country. It is difficult, if not impossible, to summarize all of these college students' experiences into a concise package. In fact, the literature regarding the Asian American college student experience is as diverse as the ethnic groups that comprise this minority population (Hsia & Hirano-Nakanishi, 1989).

Due to educational, attitudinal, and vocational success within the past twenty to thirty years, a myth of Asian Americans as the "model minority" has surfaced (Hirschman & Wong, 1986; Osajima, 1988; Petersen, 1966; Suzuki, 1989). Their high levels of educational attainment have been consistently supported by empirical evidence. For example, two years after high school graduation, only 64% of Caucasians enter higher education versus 86% of Asian Americans (Bureau

of Census, 1984). Asians also seem to do well in college and are high persisters. Sue and Okazaki (1990) reported that Asians had the highest rate of students graduating from college within five years of any ethnic group including Whites (63% versus 61%, respectively). Hirschman and Wong (1986), Nagasawa and Espinosa (1992), Sue and Okazaki (1990), and Tsang (1984) have all posited a similar hypothesis to explain the Asian American success. These researchers view attaining an education, even overinvesting in education, as the only way for Asian Americans to gain social mobility in the midst of their often experienced racial discrimination in the United States. Even though not all of the literature supports these findings, the converse arguments are rarely heard, many times due to the biased representation by the media.

The popular press along with many researchers have speculated or hypothesized still other reasons for such success. Osajima (1988) attributed the Asian American academic and vocational success to strong family values; Reglin and Adams (1990) have supported the view of influence and control on the part of parents, while others have considered the proposition that Asians possess genetically superior intelligence (Fox, 1991; Lynn, 1991; Rushton, 1985, 1988, 1990; Sowell, 1978; Vernon, 1982).

Success in the workforce has also been documented and perpetuates the positive image Asian Americans have acquired (Borjas, 1986; Weyl, 1989). Borjas (1986) summarized the 1980

U.S. census data which showed that Asians do better than Caucasians in regards to small family businesses. Self-employed Asians had a mean family income of $24,150 whereas self-employed Whites made only $23,995 a year. Furthermore, salaried employees of Asian and White populations had almost identical income levels, differing by only $400 a year. Weyl (1989) presented data to show that Asian Americans ranked second and tied for first, respectively, of those professionals found in the fields of medicine and engineering. However, educational achievement and family incomes are not the only measures of success.

These figures seem to support the myth of the "model minority" and may actually do more harm than good for Asian Americans. Many believe that with such noted success there would be no need for assistance educationally, vocationally, or psychologically (Leung, 1990; Sue, 1977; Sue & Kitano, 1973; Sue, Sue, Sue, 1975). However, as stated earlier, educational achievement and family incomes are not the only measures of success. The level of stress experienced by Asian Americans is equally important and is frequently overlooked or excluded from the commonly used "success formula." There is a need in the field of counseling psychology to dispel these stereotypes in order to explore the Asian American college experience. Without the confines of stereotypes, we may begin to see the image more clearly. It is believed by the author that Asian Americans are not as well off as our helping-

profession consciences would hope them to be. The nearly one half million Asian Americans in United States colleges deserve to be researched in order to understand their own reality instead of relying on the mainstream's presumed reality of their experiences.

As much conflicting evidence abounds in the literature as does supporting evidence for this impeccable image. In fact, a large body of literature presents people of Asian descent as experiencing more difficulty vocationally, educationally, and psychologically than other ethnic and racial groups (Aldwin & Greenberger, 1987; Hartman & Askounis, 1989; Kim, 1981; Kitano & Sue, 1973; Lunneborg & Lunneborg, 1986; Minatoya & Sedlacek, 1983; Nagasawa & Espinosa, 1992; Sue & Okazaki, 1990; Sue, Sue, & Sue, 1975, Suzuki, 1989; Toupin & Son, 1991; Werbel, Phillips, & Carney, 1989).

Suzuki (1989) critiqued the widespread notion that Asian Americans are problem-free as a minority group by exposing the popular press' misuse of the 1970 U.S. Census data. The statistics showed that Asian Americans had more schooling and had a higher annual income than the rest of the U.S. population. However, the media failed to consider the following points: (1) many adult children of Asian descent remained in the home longer than their Caucasian counterparts, (2) both spouses worked outside the home for many Asian families, and (3) Asian families tended to have more children than Caucasian families, which meant more members to support

financially (Suzuki, 1989). The higher median family income is misleading when one overlooks the number of members who are contributing to the family income. In exploring the data more closely, Suzuki also found that Asians do not experience the same "returns" to education that Whites do. In fact, professional Asians in the workplace tend to be underpaid for the amount of education they possess and often experience a "glass ceiling" effect when they are denied promotion to executive and administrative positions (Kim, 1981; Nagasawa & Espinosa, 1992; Suzuki, 1989).

There is also evidence in the educational research that contradicts the stress-free stereotype many Asian Americans may receive. Contrary to previously presented research, Toupin & Son (1991) have shown that Asian students do experience difficulty graduating from four-year colleges. In their study, they compared Asian American students to non-Asian students (e.g. Blacks and foreign-born students) who were matched for similar educational backgrounds and intellectual abilities. The findings stated specifically that Asian students were more likely to be placed on academic probation, had lower GPA's, were more likely to withdraw from school for medical reasons, were more likely to take a lighter course load, and were less likely to graduate after four years of college than their non-Asian counterparts. These findings are of particular interest due to the increase in undergraduate enrollment for Asian American students (U.S.

Bureau of the Census, 1991). In other words, Toupin and Son's findings suggest that more Asian students are being admitted, but are not matriculating from college for any number of reasons. Supporting this finding, Lunneborg & Lunneborg (1986) reported that students of color were more likely than Caucasians to drop out of college even though the first year GPA's of the Asian American, Chicano, and American Indian subjects were comparable to Caucasians. Something in the Asian American college experience is making it difficult for graduation to occur. Minatoya and Sedlacek (1983) also found that Asian and Hispanic students spent longer amounts of time studying, expressed more interest in learning better study skills, and were more likely to imagine dropping out of college than both African American and Caucasian students. Having English as a second language might explain some of these findings for Asian students. These results indicate that the educational experience for Asian American college students is more stressful than was commonly thought. It is also important to note that although Asian Americans are attaining a secondary education, there is a higher proportion that are not and continue to live in poverty (Sue & Padilla, 1986; Suzuki, 1989). And those that are succeeding in attaining education may represent a, "very biased sample, the cream of their own societies" (Butterfield, 1986, p.18).

When we consider quality of life for Asian Americans, the research is telling. Like other ethnic minorities in the

United States, Asian Americans have been and remain subject to racism, violence, discrimination, and prejudice (Cheung, 1980; Leung, 1990; Sue & Sue, 1990; Werbel, Phillips, & Carney, 1989). Reported anti-Asian violence has risen over the past years according to the U.S. Commission on Civil Rights (Suzuki, 1989). One of the more publicized incidents occurred in 1982 in Detroit. Vincent Chin was a Chinese American who was beaten to death by two White men after being mistakened for a Japanese auto worker who presumedly took their jobs in the plant. The punishment of the two White men seemed not only unjust but also absurd when they were fined $3,750 plus three years probation (Sue & Sue, 1990). Furthermore, Asian Americans reported more racial discrimination than Hispanics (Sodowsky, Lai, & Plake, 1991), showed more depression than Caucasians (Aldwin & Greenberger, 1987), and displayed more anxiety about interacting with Caucasians than Hispanics (Stephan & Stephan, 1989). Because of the perception that Asians are high academic achievers, they may be seen by the White majority as a threat when competing for the same jobs or college admissions. For this reason, Asian Americans may be experiencing more actual hostility from the majority than other minority groups. Racial discrimination, anti-Asian American violence, religious and language barriers are all stressors likely to disrupt Asian American college students in their attainment of college degrees (Graham, 1983; Leung, 1990; Minatoya & Sedlacek, 1983).

There is evidence stating that the effects of racial and ethnic injustice are found to permeate the college experience as well (Bennett & Okinaka, 1990; Sue & Frank, 1973). In their study of college students, Bennett & Okinaka (1990) found a negative quality of life for all ethnic minorities. More specifically, Asian students reported strong feelings of social alienation and dissatisfaction even though they rarely intended to drop out of school. Other researchers have reported that Asian American college students experience more stress and anxiety than their non-Asian counterparts (Onoda, 1977; Stephan & Stephan, 1989; Sue & Frank, 1973; Sue & Kirk, 1972). Not only did Aldwin and Greenberger (1987) discover that Koreans expressed more depression than Caucasians, but they also found that the predictors of depression were different for these two ethnic groups. The latter finding has considerable theoretical and practical implications, suggesting that people from different ethnic backgrounds and cultures have different ways of perceiving stress (Newcomb, Huba, & Bentler, 1986).

Stress is believed by many theorists and researchers to be a major factor affecting mental health for a variety of populations (Dohrenwend & Dohrenwend, 1974; Fairbank & Hough, 1984; Hobfoll, 1989; Lin, Simeone, Ensel, & Kuo, 1979; Rahe, 1972; Slack & Vaux, 1988; Vega, Hough, & Miranda, 1985). However, there is little empirical research assessing the effects of stress on culturally diverse populations. A few

researchers, such as Leong, Tseng, and Wu (1985) and Fairbank and Hough (1984) have reviewed the paucity of racially diverse life events studies and found cultural differences in perceived life event stress. For example, Masuda & Holmes (1967) found that the Japanese rated being detained in jail and committing a minor violation of the law as more stressful than Whites. Furthermore, few researchers have attempted to assess the particular stressors experienced by the Asian American population even though authors, such as Bourne (1975) and Cervantes and Castro (1985), suggest that differences exist both between and within entire ethnic groups. The need for culturally relevant and valid instruments used to detect those students at risk is paramount.

The purpose of this study was twofold. The first was to validate a stress scale with diverse subgroups of Asian American college students that could be used by college counseling centers across the United States. The second involved a preliminary investigation of the variables that affect the stress levels of Asian American college students. Specifically, Asian ethnicity, gender, grade level (freshman - graduate), generation level, and cultural commitment were explored in relationship to self-reported levels of stress in a Asian American college student population. Stress in Asian American college students needs to be measured validly so that counselors can better understand the complexities of this particular ethnic group and thereby provide appropriate

services to the students. During an era where "diversity" has become a "buzzword" on campuses, it is hoped that this research will shed more light on the subgroups that comprise the Asian American population and their experience of stress while in college.

The following chapters will contain a review of the relevant literature (Chapter 2), an explanation of the study's methods and procedures (Chapter 3), a summary of the statistical results (Chapter 4), and a discussion of the implications of the research (Chapter 5).

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Stress as a Construct

The term "stress" is difficult to operationalize, primarily because many theorists and clinicians have opposing views of what stress actually is. Some conceptualize stress as an objective, external condition (input), some as a subjective result of living conditions (output), and others as an interaction of the events and perception of those events (Lazarus, 1990). Hobfoll (1989) made an attempt at organizing the vast field of stress theory by reviewing four widely accepted models of stress frequently seen in the literature. The first perspective he presented is the "Cannon-Selye" model which views stress as a physiological response to some environmental stressor. As one of the first models of its time, it has a strong biological basis with little attention paid to the psychological aspects of stress. In particular, this model does not take into account the individual's psychological hardiness, situations in which the stressor occurs, or how the environmental stressor might be perceived by the individual. The second model presented by Hobfoll, called the "event-perception" view of stress, has incorporated the personal appraisal element that was lacking in the Cannon-

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Selye model. Both Sarason and Speielberger contributed to the "event-perception" viewpoint in their writing and research which finally allowed for the individualization of stress and gave credence to both the event and appraisal of the event. The stressor referred to in this model could be physical or psychological. Next addressed by Hobfoll was Lazarus' "transactional" approach to stress which also accounts for the individual's perception of the stressor. However, with this model, psychological balance is the key. Lazarus' theory posits that a person feels stress in response to a lack of balance. This imbalance occurs when he/she feels unable to cope with the situation when using their already existing coping mechanisms. The fourth model presented by Hobfoll is his own. His "conservation of resources" theory presents people as stocking up on resources, namely anything that is deemed valuable by the individual (such as vocational status, romantic relationship, or money). Hobfoll believes stress results from the fear of or actual loss of those resources. Losing your job, divorce from spouse, or losing money on the stock market are all seen as a loss of resources and therefore stressful according to Hobfoll's model.

The argument over how to gauge the stressfulness of the event(s) has also continued in the literature. As stated previously, some view "stress" as a common event (e.g. a test) while others view "stress" as the feeling state that is associated with the common event (e.g. test anxiety). Stress

could also be viewed as a major event (e.g. death of a loved one) or as the feeling state that is associated with the extraordinary event (e.g. grief and loneliness experienced after the loss). Both examples are surely stressful occurrences. More recently, researchers have begun to look at the cumulative effects of the stress produced from daily hassles as opposed to the stress experienced because of a major life event (Burks & Martin, 1985; Cohen, Kamarack, & Mermelstein, 1983; Kanner, Coyne, Schaefer, & Lazarus, 1981). The research done by Holmes and Rahe (1967) was one of the first attempts at an explanation of stress which stated that any change, be it positive or negative, was potentially damaging to one's health and therefore stressful. However, this explanation has been found over the years to be inadequate. Consistently, research has shown that daily hassles or life strain is more strongly related to mental health than the number of major life events. Kanner, et al. (1981) studied male and female adults and found that hassles such as "concern about weight" and "too many things to do" were considerably better predictors of psychological symptoms than major life events. Burks & Martin (1985) studied undergraduate women and also found that everyday problems such as "being bothered by neighbors" and "doing worse in school than expected" were more predictive of symptoms than were life events. Cohen, et al. (1983) added a different dimension to the study of stress by incorporating the degree of perceived

stressfulness of non-specific life situations. In this study as well, the life event checklist was not found to be as good a predictor of depressive and physical symptomotology as the comparative measure. These studies have pointed to the importance of both daily hassles and the perceived stressfulness of the event in stress measurement. Both daily hassles and the perception of those hassles were taken into account when developing the scale used in the current study.

Stress Measurement

In reviewing the literature, many stress instruments were found that were based on the above theoretical assumptions. However, each of the following measures was found to be inadequate for the current research purposes for various reasons discussed below. In the current study, a measure was needed that could assess Asian American college students' levels of stress in a culturally valid way. Therefore, a review and critique of some of the relevant stress measures often found in the literature is presented in order to clarify why the current stress measure needed to be validated with this population.

Measuring Stress as Input

The first collection of stress instruments comes under the umbrella of stressful life events which are objective external conditions described by some as "input" (Lazarus, 1990). Holmes and Rahe (1967) developed their scales, the Schedule of Recent Experience (SRE) and Social Readjustment

Rating Scale (SRRS), in attempts to objectively document the change that is required in response to certain major life events. The theoretical underpinnings are that both positive and negative life changes require readjustment and that the impact of that change can be quantified by summing the degree of stress. For example, the presumed negative experience of death of a spouse and the presumed positive experience of marriage are both seen as requiring readjustment and therefore, are stressful life events. Death of a spouse carries a weight of 100 life change units (LCU) on the SRE while marriage carries a weight of 50 LCU's (Rahe, 1972). Death of a spouse is seen objectively as twice as stressful as getting married. Norfleet and Burnell (1990) found the SRE helpful in identifying events such as divorce, death of close family member, termination at work, and adult child moving out of home as events that were most related to length of time spent in psychotherapy. However, Zeiss (1980) seemed to have highlighted a limitation of this measure when she found evidence to support the statement that the SRE measures only aversiveness of life events and not the life change units it originally proposed.

Many of the life-events checklists are based upon and modeled after Holmes and Rahe's measures. The Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979) and the Undergraduate Stress Questionnaire (USQ; Crandall, Preisler, and Aussprung, 1992) are two such measures. The Impact of

Event Scale attempted to improve assessment of stress by incorporating the subjective dimension and querying the impact of the event on the individual. However, there were many reasons the Impact of Event Scale was not appropriate for this study. Namely, Horowitz, et al. (1979) wanted to develop a stress instrument for those adults suffering from major life events such as loss of a loved one or personal illness or injury. Also, the mean age of the sample population was 34 years old. The scale was deemed inappropriate for the current study because it did not adequately represent the subjects of this study. The USQ, on the other hand, was representative of undergraduate college students because it contained items that included both major life events and daily hassles. However, the USQ has many of the same difficulties of the life-events checklist cited below including that it was normed on undergraduate, not graduate college students. There was also no mention of the ethnic representation in their presented studies, leading one to believe they studied primarily Caucasian students.

Lazarus (1990) outlined five major drawbacks of the life-events approach to stress measurement that further help to elucidate the above critique. One of the problems is that some of these major life events are rare and may never be experienced by the respondent, especially young college students. Also, the life-events checklists focus on changes in living conditions and not necessarily on chronic stressors

in one's environment, such as being a person of color in a white neighborhood. A third problem with the life-events is that it neglects to take into account the personal choice involved at times in change. For example, the stress level of being fired from one's job may be different if it was a deserved termination for embezzlement or if the person was innocently framed for embezzlement. Another problem inherent to life-events checklists is that they do not take individual coping styles, existential beliefs, or values into account. Lastly, life-event checklists were originally developed to predict illness and were not developed necessarily to predict emotional difficulties. For these reasons, the various life-event checklists were not appropriate for this particular study.

<u>Measuring Stress as Output</u>

Another body of stress instruments and subsequent research was developed to explore stress as a subjective, internal state that was a product or output of subjective, living conditions as opposed to objective, external conditions. The Daily Stress Inventory (DSI; Brantley, Waggoner, Jones, & Rappaport, 1987) and the Perceived Stress Scale (PSS; Cohen, Kamarck, and Mermelstein, 1983) are two such instruments developed to address the limitations of life-events checklists, namely their lack of subjective appraisal and event-specific nature of the stress items. The Daily Stress Inventory (Brantley, et al., 1987) is a 58-item scale,

providing three scores (events, impact, and the event/impact ratio) that attempt to assess the impact of common, everyday stressors. The majority of studies found using the DSI were concerned with physiological correlates with stress as opposed to the psychological or emotional link. Brantley & Jones (1993) used the DSI to explore the relationship between minor irritants and physical disorders such as asthma, diabetes, and headaches. Likewise, Waters, Rubman, and Hurry (1993) used the DSI to predict the presence of physiological symptoms and thereby support the measure's validity; while convergent validity was addressed in a study by Brantley, Dietz, McKnight, and Jones (1988) that compared endocrine levels to stress levels. Psychological stress was also explored using the DSI in Anderson and Anderson's (1993) study monitoring students' levels of stress throughout a semester. Brantley, Cocke, Jones, and Goreczny (1988) also established the measure as having adequate construct validity because it was able to discriminate between weekend and weekday levels of stress. However, Hayes (1992) pointed out a few problems with this scale. One criticism is that the word stress is used in the instrument without explanation of what it means. Therefore, depending upon the respondent, the stress score may represent generalized anxiety, a headache, or giving birth. Allowing respondents to answer subjectively with what they perceive stress means to them makes for a flexible instrument that could and is used for assessing stress both as a physical and

emotional phenomenon; however, this very flexibility makes it difficult to say with any clarity what the students have in mind when they are answering.

The Perceived Stress Scale (PSS) by Cohen, et al. (1983) is another attempt to address the limitations of life event checklists. The PSS asked respondents to report how often they felt or how often they thought a certain way in the last month. In addition, the items were more global in nature thereby supporting the daily hassles approach to measuring stress as opposed to major life-events approach. Empirical research has supported the use of the PSS as a better predictor of physical symptomotology and more importantly, of depression, than either of the two life-events scales used as comparison measures in the study (Cohen, et al., 1983). Others have called into question, however, the confounding nature of the PSS, stating that the face validity of the scale makes its' assessment circular and therefore provides little, if any, new knowledge to the study of stress (Lazarus, DeLongis, Folkman, & Gruen, 1985). They also criticized the unidimensionality of the PSS. Specifically, they argued that providing only one stress score was too simplistic an approach for measuring the complicated process of stress and its' affects on psychological and somatic states (Lazarus & Folkman, 1986). The questionable ethnic representation in the norms for these measures is a validity concern that permeates all of the instruments as well.

Measuring Stress by Systems Approach

Lazarus and his associates have taken the study of stress to another level, one that conceives of stress as a process (Lazarus & Folkman, 1986). They reject the over-simplification approach of prior stress researchers and instead support the view of stress is a part of a complex system involving a combination of variables such as coping, subjective appraisal, and personal restraints and resources. The Hassles and Uplifts Scales (Kanner, Coyne, Schaefer, and Lazarus, 1981) embody this conceptualization of stress. The scales assess both psychological stress and coping factors by providing items that encompass both positive and negative events. Therefore, they are not only looking at the negative aspects of stress, they are also looking at the buffers of stress (Budd & Heilman, 1992).

However even with this scale, authors and researchers of opposing measures critique it negatively. Cohen (1986) pointed out that the Hassles Scale does not allow respondents to answer neutrally or favorably to the events presented. Also, assuming that the scoring of a list of events as equally and automatically stressful may be incongruent with how the event is appraised. Furthermore, Cohen remarked that the items neglect to represent the frequently stressful events occurring to others in their lives (i.e. illness of family member). Dohrenwend & Shrout (1985) also found the Hassles Scale was a confounding measure of stress due to the

psychological symptom-like nature of many of the items. A sample of clinical psychologists agreed with Dohrenwend and Shrout and rated items from the Hassles Scale, as well as the Holmes and Rahe (1967) Scale of life events, as representing psychological symptoms and is therefore confounding. Even though there may be inherent methodological pitfalls using the Hassles Scale, researchers such as DeLongis, Folkman, & Lazarus (1988) worked around it by using a, "thoroughly revised version of the Hassles and Uplifts Scale, (p. 488)" to study daily stress and its' effect on mood and somatic complaints for married couples. These researchers took the confounding nature of measuring stress into account when they eliminated those items which often bring into question the assessment of psychological or somatic health. Lazarus (1990) himself addressed several limitations of the Hassles Scale as having too much emphasis on sociological factors instead of the psychological processes that underlie the experience of stress, not addressing coping mechanisms in the stress scales, and using too simplistic a model to assess stress. Lazarus believes the reductionism that occurs when a simplistic model is used (i.e. Hassles Scale) instead of the multi-faceted, more complicated systems approach, limits the implications that are possible with the research findings.

With each of these theories and stress instruments, certain aspects of stress are highlighted, each with their own merits. The complexity of the stress process is evident when

one tries to incorporate the various points of each theory. Stress is not a unidimensional event, but a multidimensional process that is always in flux (Lazarus, 1990). But when too many variables are encompassed into one theory and empirical study, explanation of significant results becomes complicated and convoluted. A compromise is to study just a few aspects of the stress process and relate the results to a more complex system of stress research. In this way, each piece of research contributes to the overall study of the vast area of stress research and clinical effects. In other words, research done in this way can contribute significantly to the body of stress literature if parameters of the study are clearly stated.

Stress Measures for College Students

By reviewing the various stress measures, it becomes clear that only measures which are specifically developed for the study's target population should be used. Even if the instrument has been deemed to possess adequate reliability and validity, it will not be used appropriately if used with a population significantly different than the normative sample. Lustman, Sowa, and O'Hara (1984) likely had this in mind when they developed the Psychological Distress Inventory (PDI) for use with college students. Their measure provided four scales which assessed stress, depression, anxiety, and somatic distress. Despite the promising preliminary reliability and validity results, the measure was not appropriate for the

current study in measuring stress with Asian Americans because it was unclear whether or not those of Asian descent were represented in Lustman, et al.'s normative sample. A subsequent study (Smallman, Sowa, & Young, 1991) found ethnic differences on all four of the PDI scales which again calls into question the validity of using the PDI with just any students of color. Also attempting to measure college students' reported stress, Zitzow (1984) developed the College Adjustment Rating Scale which assessed academic, social life, personal life, and home environment stress. Again, the number of minority students were under-represented in his relatively limited sample. Both Williams (1987) and Leong, Mallinckrodt & Kralj (1990) have cautioned researchers regarding content validity when using measures validated on primarily Anglo populations with culturally diverse populations. Therefore, it seemed important to use a stress measure validated specifically with Asian American college students for this study. However, the literature demonstrates a scarcity of and subsequent need for such scales not only with Asian American college students (Fairbank & Hough, 1984), but with other ethnic groups as well (Cervantes & Castro, 1985; Pliner & Brown, 1985; Vega, Hough & Miranda, 1985). Due to the lack of culturally valid instruments available, a scale modeled after Solberg, et al.'s (1991) stress scale, which was used originally with Mexican American and Latino American college students (Solberg, Valdez, Villareal, & Falk, 1991), was

validated with Asian American college students and used to collect the stress data for this study.

The Current Stress Measure

In this particular study, an attempt was made to assess the levels of stress in Asian American college students. The scale attempted to present situations that are relevant to respondents as students and as Asian Americans and assess whether they perceive the demands of college as exceeding their ability to cope, thereby being stressful. As stated above, the items chosen for this instrument were based on the College Stress Inventory developed by Solberg, et al. (1991). In it, both the event and appraisal of the event are measured by items that seem relevant to Asian American undergraduates and graduate students. The nineteen stress items that comprise the College Stress Inventory (CSI) can be found in Appendix A. The CSI is relevant only for the specific ethnic groups of Asian American college students that were used from the entire data pool (e.g. Chinese, Korean, Filipino, Asian Indian, and Taiwanese) until it is cross-validated for use with other ethnic groups. To clarify the construct of stress and the instrument to be used, Lazarus (1990) offered some useful guidelines.

Lazarus (1990) did not specify "how-to" instructions for developing multicultural stress scales; however, he did note four general areas that need to be clarified when measuring stress. The four critical questions that need to be answered

are as follows: (1) is stress seen as an objective or subjective phenomenon?, (2) is stress viewed as major life events or as daily hassles?, (3) how do test developers choose to work with the confounding nature of stress?, and (4) what constitutes the actual sources of stress? These points were addressed with the CSI in the following ways. First, stress was viewed as a subjective phenomenon influenced by personal resources, psychological needs, and individual circumstances. Second, the CSI embodied the daily hassles likely to be experienced by a student of color in a college setting. Therefore, in terms of measuring stress from a theoretical perspective with Asian American college students, it was important to ask the students to report how often they experienced difficulty handling both general college experiences (i.e. taking exams) and more ethnic-specific college experiences (i.e. meeting peers of a similar ethnic background). Third, the confounding nature of stress is an inherent and an inevitable problem. There is no agreed upon solution to this problem; however, Lazarus (1990) supports the use of subjective appraisals of daily hassles as opposed to life events to combat the problem in addition to refraining from using both physical and emotional symptoms as stress items. The College Stress Inventory satisfied both of these suggestions. Lastly, the content of the CSI items covered various areas of college life that could prove stressful for students, including academics, social relationships, and

finances. In summary, an attempt was made to follow the suggestions made previously in the literature for carrying out stress measurement. With the current study of stress and Asian American college students, attention was paid to the interface between theoretical and measurement issues and the influence that one's culture could have on both.

Asian American Group Differences

Combining such ethnicities as Chinese, Filipino, Japanese, Asian Indian, Korean, and Vietnamese Americans into one racial group has its advantages when lobbying for reform in economic, social, and political arenas (Hsia & Hirano-Nakanishi, 1989). The greater the number, the greater the voice. However, much of the diversity in the Asian subgroups is lost when they are lumped together for such statistical purposes. The different subgroups comprising the Asian American population have their own individualistic customs, languages, religions, values, and history in the United States (Chew & Ogi, 1987; Hsia & Hirano-Nakanishi, 1989; Leung, 1990; Matsouka & Ryujin, 1991). However, the majority of empirical studies assess between-group differences, usually comparing Asian Americans to Whites or other minorities (Abe & Zane, 1990; Aldwin & Greenberger, 1987; Bennett & Okinaka, 1990; Lunneborg & Lunneborg, 1986; Minatoya & Sedlacek, 1983; Sodowsky, Lai, & Plake, 1991; Stephan & Stephan, 1989; Toupin & Son, 1991). When only races are compared, we perpetuate many racial stereotypes while neglecting the cultural

components that are often behind the noted behavioral differences (Betancourt & Lopez, 1993). In this age of multiculturalism, it would be an oversight at best and ethnic insensitivity at worst not to look at the diversity within the group of Asian Americans (Sue & Okazaki, 1990; Sue, Sue, Sue, 1975; Tsang, 1984).

Sue and Frank (1973) found support to suggest that Japanese American men in college appear to be better adjusted than Chinese American men in college on measures of loneliness, isolation, rejection, and anxiety. The authors hypothesize such differences are due to Japanese Americans being more at ease in the United States than Chinese American due to different ways of acculturation. In a qualitative study of stressful life events in Japan, Korea, Indonesia, Thailand, and China, Leong, Tseng, and Wu (1985) found both similarities and cultural differences. Leong, et al. (1985) asked six clinicians from different Asian countries to rank the most often heard stressful life events of their patients or clients. There were similarities noted in the ranking of marriage and work difficulties, however, the order of quality of stressfulness in regards to these and other issues were quite different depending upon the ethnic group. There are definite limitations to this study, but it is none-the-less an intriguing preliminary study into the presence of cultural differences within the Asian race. The scarcity of research on within-group differences makes it difficult to state

specific, directional hypotheses regarding the Asian American subgroups, but greatly supports the need for this type of research. Therefore, in the present study, the relationship between specific Asian American subgroups and their subjective levels of stress was explored without prior prediction of outcome.

Gender and Stress

Newcomb, Huba, and Bentler (1986) studied the impact of life change events on adolescents in high school. The subjects represented Asian American, African American, Caucasian, and Hispanic ethnic groups. A main effect was found for gender as the women reported more extreme scores, both positively and negatively, when rating life events. A possible reason for this finding is the notion that females typically express more emotion than men (Newcomb, et al., 1986). Likewise, Cahir and Morris (1991) found that female graduate students in psychology reported higher emotional, academic, and financial stress scores than males did. In another study using medical students as subjects, women reported 24% more stress symptoms than men; however, they did not differ in their reporting of daily hassles and uplifts (Spiegel, Smolen, & Hopfensperger, 1986). In another study which queried undergraduate men and women to assess a list of major life changes, Jorgensen & Johnson (1990) found women more likely to rate the life events as more stressful and tension-producing thereby requiring more time to recover from

than did men. Hetherington, Oliver, and Phelps (1989) found similar results with their undergraduate subject pool. In their study, they studied resident assistants (RA's) and found that female RA's reported higher levels of "burnout," or emotional exhaustion, than did their male counterparts. It seems as if women are encountering the same amount of stressors, but are either more aware, more vocal, or more sensitive to its effects. Onoda (1977) also found that female Sanseis (third generation, Japanese Americans) reported more neurotic tendencies than did male Sanseis. To explain this difference, it was hypothesized that there is a greater transition from the traditional culture to the host culture for women than there is for men. Another explanation was the possibility that the Japanese American women are, like Caucasian American women are considered to be, more vocal regarding their difficulties than Japanese American men.

However, all of the gender/stress literature does not support these findings. In Hamilton and Fagot's 1988 study of undergraduate men and women, they found no gender differences for the majority of their analyses in frequency of daily stressors or in their perceptions of stress. Padilla, Wagatsuma, and Lindholm (1985b) also found no significant differences between the genders when they addressed stress with Japanese American undergraduates. Similarly, Zuckerman (1989) found that in most areas of male and female college students' lives, they reported similar stress levels. The

only exception was in regards to family relationships and their own mental health concerns, where women reported more stress. In another study of adolescent males and females, both genders experienced stress, but the contents of their stress was different (Kanner, Feldman, Weinberger, & Ford, 1987). All of these researchers suggested that different gender socialization accounted for their differing interests and concerns.

Because of the lack of agreement in the literature, it is difficult to make directional hypotheses regarding gender differences. Another issue complicating the review of the literature is the possibility that the predominance of significant gender differences cited above may be more a function of a bias often found in published journal articles than actual gender differences. The bias being referred to is the frequency with which articles reporting significant results are chosen to be published instead of those with non-significant results. Therefore, in the present study, the relationship between women and men was explored in regards to their subjective levels of stress with no directional hypotheses stated.

Cultural Commitment and Stress

Acculturation, or the process of acclimating oneself to the host/majority culture by those of diverse or minority cultures, is believed by many to be an important variable in studying stress and mental health (Bourne, 1975; Krishnan &

Berry, 1992; Mena, Padilla, & Maldonado, 1987; Smith, 1985; Sodowsky, Lai, & Plake, 1991; Wong-Rieger & Quintana, 1987; Yu, 1984; Yu & Harburg, 1980). Smith (1985) discussed the acculturative stress experienced by certain Asian groups in the United States when they no longer have one specific ethnic group to follow. Instead of one reference group, there are many, which make following traditions and adhering to the beliefs of one's culture of origin difficult. This acculturation process is multifaceted, including such phenomenon as the shifting of language preferences from Chinese to English, valuing not only Chinese custom, but American as well, and having multicultural social relationships. Krishnan & Berry (1992) also found evidence to support the notion that stress may be dependent upon type of commitment to one's culture of origin. In their study, they used immigrant Asian Indians to show that those who chose to integrate (identifying with both cultures) into U.S. culture reported less stress while those who preferred the marginal status (rejecting both cultures) or remained separated (reject new and keep culture of origin) from mainstream culture, reported greater stress.

Because of its' complexity, the construct of acculturation has been studied in various ways using a variety of terms to describe it. Terminologies that are often used synonymously with acculturation are "ethnic identity" and "cultural commitment." According to Newton, Buck, Kunimura,

Colfer, and Scholsberg (1988) who studied Japanese American ethnic identity, one cannot simply measure a respondent's ethnic identity by measuring how many generations of their family have been in the United States. Using generation as the measure of acculturation is too simplistic and inadequate due to the subjective nature with which people acculturate. Instead, Newton, et al. (1988) described ethnic identity as "the degree of Japaneseness, as measured by self-perception, identification, and participation in ethnic activities" (p.308). Padilla (1986) conceptualized acculturation in a similar fashion, as including pride in one's culture of origin, which language one prefers to use, and who one chooses for social relationships. Generation level is viewed as a different variable all-together than acculturation level and is measured as a distinct variable in both studies. In the current study, what other authors call "ethnic pride/identity" and "acculturation level" is labeled as level of "cultural commitment." The term cultural commitment is taken from Ruiz (1981), who defended the position that when measuring acculturation, it is important to assess whether or not the respondent is committed to his/her culture of origin.

In Newton, et al.'s study (1988) on ethnic identity with Japanese Americans living in Hawaii, they compared the second and third generations on measures of ethnic identity and found that ethnic identity gradually declined over generations. Newton, et al. (1988) associated this loss of ethnic identity

with conforming to the mainstream culture. They hypothesized that as minorities become more like Anglo Americans through the acculturation process, one would most likely experience less stress because they are no longer enduring as much opposition to follow the beliefs, values, and customs of their native cultures. Padilla, Wagatsuma, and Lindholm (1985) used Japanese and Japanese American undergraduates to explore the relationship between level of acculturation and familial, environmental, attitudinal, and social stress. They found that those students that were the least acculturated expressed the most stress, while the highest acculturated students expressed the least amount of stress. It seems that level of acculturation, as measured by items such as language usage, social, food, and music preferences, is a valid predictor of stress for students of Japanese descent. Yu and Harburg (1980) studied Chinese American adults to assess whether or not acculturation was related to four different measures of stress which included psychological stress, life dissatisfaction, discomfort levels, and negative life events. Yu, et al. (1980) found the most acculturated adults reported the least amount of psychological stress and conversely, those with higher levels of acculturation had lower levels of discomfort. These results were in accordance with their stated hypotheses that as Chinese Americans became more accustomed to the mainstream culture, they experienced less stress. However, in a subsequent study surveying Chinese

American adults, Yu (1984) found conflicting results to her prior research. This time, the most acculturated group reported the highest psychological stress. She attributed the newer findings to feeling dually prejudiced against by both their own ethnic group (Chinese American) and the majority culture. In other words, they are not White enough for the majority and not Chinese enough for their less acculturated Chinese counterparts, and therefore experience greater stress.

Sodowsky, Lai, and Plake (1991) were interested in exploring intra-ethnic differences in levels of acculturation by specifically looking at Asian Indian, Chinese American, Japanese Americans, Vietnamese, and Koreans subgroups. Significant differences were found between three of the groups, pointing to Vietnamese as being less acculturated than were Japanese Americans and Koreans. The authors explained these differences historically; that many Japanese Americans have been in the U.S. since the 1800's and simply have had more time to acculturate to the mainstream culture. The Vietnamese Americans, on the other hand, arrived after the Vietnam War as refugees and as such, not only had less time to acculturate, but also a different set of circumstances which brought them to the United States (Sodowsky, et al., 1991).

Cultural commitment is likely to be dependent upon one's pride in his/her culture of origin, with whom the person identifies, and language preferences with family and friends. It seemed likely that level of cultural commitment would

significantly influence stress scores and was therefore statistically controlled for by submitting it as a covariate into the analysis. In this study, the relationship between level of cultural commitment and level of stress was examined prior to the analysis of covariance.

Generation and Stress

It is stressful living as a person of color in the United States' mainstream culture. In addition to the general life stressors all persons must endure, most immigrants (first generation) must also live with stressors related to being a new member in the host culture (i.e. language barrier) as well as stressors related to being a person of color (i.e. discriminated against). It would seem that the stressors experienced as a result of being an immigrant would diminish, if not disappear, with each generation in the United States (Padilla, 1986). That is, with each passing generation, speaking English would come more easily and therefore become less stressful. Padilla and his associates found evidence to support this theory. In a multicultural sample, comprised of, but not limited to, Asian, Hispanic, African, and Caucasian undergraduates, Mena, Padilla, and Maldonado (1987) looked at the stress experienced by immigrants, second generation, third generation, and mixed generation undergraduates (one parent born in foreign country while subject and other parent were born in U.S.). There were significant differences found between all generational groups on four types of stress:

social, attitudes, family, and environment. They found that immigrants experienced the most stress, followed by mixed generation, second, and third generations. In addition, Padilla, Wagatsuma, & Lindholm (1985a, 1985b) reported findings that suggest different amounts of stress in college students depending on their generational level. More specifically, Padilla, et al. (1985a) compared first, second, and third/later generation Japanese and Japanese American undergraduates on measures of stress, self-esteem, locus of control, introversion and extraversion, values, and acculturation. They found that first generation subjects experienced more stress, scored lower on measures of self-esteem, and were more externally oriented than the third generation subjects. In a similar study, Padilla, et al. (1985b) compared first, second, and third/later generation Japanese Americans and Mexican Americans again on the same variables as the aforementioned study. Like their previous findings, first and second generation individuals reported significantly more stress than later generation individuals.

In the present study, the relationship between the three generational groups and their subjective level of stress were explored. Generation was divided into first generation (immigrant), second generation (respondent born in United States, but parents were not), and third generation and later (parents were born in United States). Based on the consistent prior research, it seemed likely that the variable of

generation would significantly influence stress scores and was therefore controlled for by submitting it as a covariate into the analysis. The relationship between generation and the dependent variables was examined prior to the analysis of variance procedures.

<div align="center">Grade Level and Stress</div>

College students are likely to have different experiences depending on whether they are freshmen, sophomores, juniors, seniors, or graduate students. With these different experiences, they may have different levels of stress as well. Very little empirical research was found either to support or reject this claim. Bennett and Okinaka (1990) used Asian American, African American, Hispanic, and Caucasian undergraduates to compare the first-year to fourth-year students' experiences. For the Asian American group, the freshman were more satisfied than the upperclasspersons that persisted/remained at the university. In other words, it seemed that Asian students became more dissatisfied and alienated the longer they stayed in college. In the present study, the relationship between the different grade levels (freshman through graduate) and their subjective levels of stress was examined. Even though prior research does not dictate a specific relationship, it seemed intuitively likely that the variable of one's grade level may significantly influence stress scores. Therefore, grade level was controlled for by submitting it as a covariate into the

analysis. Like the other covariates, the relationship between grade level and the dependent variables was examined prior to the analysis of covariance procedures were done.

Hypotheses Proposed

The overriding purpose of this study was to glean pertinent information that will facilitate accurate assessment of the specific problems or stressors faced by Asian American students on predominately White campuses. More specifically, I explored how ethnicity, gender, cultural commitment, generation, and grade level were related to levels of reported stress. It is the author's hope that the results of this study will facilitate a variety of changes. One is to help guide the field of counseling psychology in furthering its multicultural research. Another is to challenge counselors and the population at large to be more sensitive to how difficult it is for some persons of color to function in the mainstream and to make the systemic changes that are needed. Lastly, it is hoped that this research will offer useful ideas for services such as personal counseling and psychoeducational programming for this underserved population.

Due to the exploratory nature of the present study, all of the hypotheses were written without directionality. The following hypotheses were proposed: (1) Subgroup differences between Asian American college students were explored in regards to their stress levels; (2) Gender differences were explored in regards to their levels of stress; (3) The

relationship between cultural commitment and stress levels was explored; (4) Generation was examined in relationship to the students' levels of stress; and (5) The relationship between grade levels (freshman through graduate) and levels of stress was explored.

CHAPTER III

METHOD

Participants

Only Asian American students that were identified as having been born in the United States or as United States citizens were chosen as possible subjects as part of a larger study. This information was obtained from their admissions application records at a large, public midwestern university. After identification as possible subjects and as part of a larger study, a four page "Student Survey" containing the College Stress Inventory (see Appendix A) was mailed to a random selection of undergraduate and graduate students who were currently registered. After the initial mailing of 1,300 surveys, a reminder was sent to the students that had not responded. One other follow-up mailing was done before a total of 705 completed surveys were returned, providing a response rate of 53.8%. All participants completed a consent form approved by the Institutional Review Board. Only survey items pertaining to the specific hypotheses of this study were analyzed and reported here.

Among the 705 college students who answered the survey, sixteen Asian countries of origin were represented. The total number of participants that were represented by country of

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origin are listed as follows in alphabetical order: Afghanistan (N = 1), Bangladesh (N = 2), Burma (N = 3), Cambodia (N = 1), China (N = 90), Hong Kong (N = 26), India (N = 131), Indonesia (N = 4), Korea (N = 142), Laos (N = 1), Pakistan (N = 4), Philippines (N = 119), Singapore (N = 1), Taiwan (N = 102), Thailand (N = 16), and Vietnam (N = 10). The remainder of the subject pool was comprised of the group labeled "other" (N = 28) and by those participants that did not respond to the questions regarding their ethnic heritage (N = 24). For parts of this study, as described below, only data from the five largest groups were analyzed, that is, Korean Americans (142), Asian Indian Americans (131), Filipino Americans (119), Taiwan Americans (102), and Chinese Americans (90) for a total of 584 subjects.

The gender breakdown of the respondents was fairly equal with males making up 54.4% (N = 383) of the sample while women made up 45.6% (N = 321) of the sample. The grade levels of students were represented fairly equally as well. Freshman comprised 20.9% (N = 147) of the subject pool, sophomores 20.3% (N = 143), juniors 18.2% (N = 128), seniors 25.5% (N = 180), and graduates students 14.8% (N = 104) of the entire number of respondents.

First generation participants made up over half of the total subject pool at 51.3% (N = 361), while second generation made up 42.2% (N = 297) and third generation and later comprised 6.5% (N = 46) of the total number of subjects. When

asked about their citizenship status, 83.2% (N = 584) of the sample answered that they were U.S. Citizens, 15.2% (N = 107) reported they were permanent residents, and only 1.6% (N = 11) stated that they were in the United States on a Student Visa and would most likely return to their country of origin after college.

The operational definitions of the constructs ethnicity, generation, and cultural commitment were developed purposely in this study. Of the few intra-ethnic studies done in the past, most researchers neglected to state specifically how they came to label their subjects with a particular ethnicity. For example, many relied on subjects stating what they themselves consider their ethnic background to be. Likewise, the variable of generation seems self-evident, but has been unclear in research and with clinicians. These methods of subjective identification prove to be inconsistent and at times, incorrect due to the idiosyncratic ways with which respondents identify themselves. For these reasons, the process by which the variables were determined is described below.

Labeling Ethnicity

In this study, many respondents were "bi-cultural," that is, have a mixed ethnic background. Some respondents, for example, may have had a mother of Korean origin and a father of Taiwan origin. One might lose important cultural information by simply labeling someone "bi-cultural."

Likewise, as stated above, by allowing subjects to identify themselves a certain ethnicity is to make subjective what should be objective information. A systematic way to label the subject's ethnic background needed to be developed. A more accurate way of assessing a respondent's ethnicity is to ask a series of questions focusing on where they were born, where their parents were born, and where their grandparents were born. In this manner, the student is assigned an ethnicity after a series of questions based on their own particular lineage. The decision rules were as follows. First, the student's birth country was used to state their ethnicity. If the student was born in the United States, the mother and father's birth place was used. If the parents were born in different countries or in the United States, the grandparents' origins were used or the ethnicity of the majority of the ancestors (through three generations). If there was equal ethnic representation among the parents and grandparents, the mother's origin was ultimately used to decide the ethnicity of the subject. In summary, the non-United States-born majority was used to decide ethnicity starting with the students themselves and working back through their lineage. These decision rules were used to provide the frequency data for ethnicity. Other researchers are encouraged to accurately assess the construct of ethnicity and to report their specific decision rules in doing so, as this would help assure consistency among variables and results.

<u>Labeling Generation</u>

In this study, first generation represented immigrants, second generation represented those who are children of at least one immigrant parent, third generation (and later) represented those who are grandchildren of at least one immigrant. These labels were delineated after looking at the Japanese literature and the descriptive labels used there when talking about generation (i.e. "issei" is first generation/ immigrant, "nisei" is second generation, "sansei" is third generation, and "yonsei" is fourth generation). In the rare case that parents born in the United States had a child born in a foreign country (i.e. in the case of adoption), that person was labeled as a first generation subject. Again, like the variable of ethnicity, we need to be clear about which groups are represented so that we can accurately interpret and use the results in our research and practice.

<u>Measuring Cultural Commitment</u>

The variable of cultural commitment was measured by the four student survey questions numbered 19, 20, 21, and 22, taken from the Suinn-Lew Accor Rating Scale. These questions were asked as follows:

19. How much pride do you have in your family's culture of origin? (1) very proud, (2) moderately proud, (3) equal preference, or (4) none (no pride).

20. What language do you prefer with parents?

(1) country/region of origin only, (2) mostly country/

region of origin, (3) equal preference, (4) mostly English, some culture/region of origin, (5) English only.

21. What language do you prefer with friends?

(1) country/region of origin only, (2) mostly country/region of origin, (3) equal preference, (4) mostly English, some culture/region of origin, (5) English only.

22. With whom do you presently associate at this university?

(1) almost exclusively Asians, Asian-Americans, Orientals, (2) mostly Asians, Asian Americans, Orientals, (3) about equally Asian and Anglo or other non-Asian groups (4) mostly Anglos or other non-Asian groups (5) almost exclusively Anglo or other non-Asian groups.

The responses were summed and kept as continuous variables with the lower scores indicating a greater cultural commitment and the higher scores indicating less commitment to one's culture of origin. These questions were assumed to represent a valid assessment of cultural commitment because they addressed the student's associations with family, friends, and pride in their own culture. A reliability analysis was performed in order to assess whether or not these items were in fact a reliable scale for measuring cultural commitment. The subsequent alpha reliability estimate was .64, which is adequate for research purposes.

Instrument Development

A stress scale, very similar to the one being used in this study, was originally factor analyzed by Solberg, et al. (1991) and validated with a Mexican American and Latino American college student population. The items used by Solberg, et al. were modeled after the Perceived Stress Scale (PSS) by Cohen, Kamarck, & Mermelstein (1983) along with items written by Rocha-Singh (1990) which were intended to assess stress in minority college graduate students. Both the event and the personal appraisal of the presumed stressful event are measured by the PSS and was chosen for that reason along with its substantial reliability and validity. An example of a PSS item is: "In the last month, how often have you been able to control irritations in your life?" The respondent chooses from a Likert-type scale ranging from 0 (never) to 4 (very often). The items chosen from Rocha-Singh's (1990) items seemed relevant to Hispanic undergraduate and graduate students, as her subjects were both college students and minorities. Solberg, et al.'s factor analysis from his scale used with Hispanic college students resulted in three separate subscales of stress which possessed adequate reliabilities. More specifically, the internal consistencies of the three stress subscales were found to be as follows: Stress Efficacy (.87), Academic Stress (.82), and Social Stress (.73).

A replication of this factor structure was expected with the current measure as well as similar reliability estimates.

As stated previously, the final nineteen stress items chosen to comprise the scale called the College Stress Inventory (CSI) can be found in Appendix A. For all stress items, the statement was prefaced by the question, "In the last month, how often have you experienced....?" Possible answers were: (1) rarely, (2) sometimes, (3) often, (4) always. These answers were summed to obtain the particular stress subscale scores. The stress scale is relevant only for the specific ethnic groups of Asian American college students that were chosen for this study (Asian-Indian American, Chinese American, Filipino American, Korean American, and Taiwan American) until it is cross-validated for use with other ethnic groups.

Plan for Analysis

The "Student Survey," which included the CSI, was sent to a randomly selected group of 1300 students registered as Asian American at a midwestern university. Utilizing the total number of completed surveys (N = 705), a principal components analysis and alpha reliability analysis was performed in order to assess the factor structure and reliability of the instrument, respectively. The second part of the data analysis included a 2 X 5 (gender by ethnicity) multivariate analysis of covariance (MANCOVA) with grade level, generation, and cultural commitment serving as the covariates. The dependent measures were the derived stress subscales (Academic Stress, Acculturation Stress, Financial Stress, and Intra-

ethnic Stress) obtained from the factor analyzed stress scale (CSI). Only five of the 16 represented ethnic groups were used for the MANCOVA, for a total of 584 subjects. Those five groups were Korean Americans, Asian-Indian Americans, Filipino Americans, Taiwan Americans, and Chinese Americans. These particular groups were chosen because they contained the highest number of respondents. Korean Americans had the highest percentage of representation out of all the ethnic groups, 20.1% (N = 142), followed by Asian Indian Americans with 18.6% (N = 131), Filipino Americans with 16.9% (N = 119), Taiwan Americans with 14.5% (N = 102), and Chinese Americans with 12.8% (N = 90).

CHAPTER IV

RESULTS

Principal Components Analysis

The nineteen items used for the principal components analysis were used in hopes of developing a valid and reliable measure of stress for Asian American college students. The Kaiser-Meyer-Olkin measure of sampling adequacy suggests a good fit for the items analyzed with a value of .90 (Kaiser, 1974). This value shows how related the items are to one another and gives ample evidence that factor analysis is an appropriate method of analysis. The Bartlett Test of Sphericity was significant which suggests that the correlation matrix is in fact different from an identity matrix. This is another piece of evidence supporting the continuation of the factor analysis. There were 651 useable cases for this analysis, which were retained from the entire sample of 705 subjects. A principal components analysis was performed with 1.0's used as the initial communality estimates, and the commonality estimates were iterated.

For the process of factor selection, the following rules were utilized: eigenvalues > 1, the scree test analysis, the total variance accounted for, and meaningfulness of the factor solution. These four criteria are supported by Tinsley and

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Table 1.--Final Commonalities, Eigenvalues, and Proportion of Total Variance Explained by Factors on College Stress Inventory

Item	Commonality	Factor	Eigenvalue	% of Var.
1	.4945	1	6.109	32.2%
2	.6709	2	1.771	9.3%
3	.5540	3	1.307	6.9%
4	.4815	4	1.060	<u>5.6%</u>
5	.5660			53.9% *
6	.4150			
7	.3012			
8	.2988			
9	.6864			
10	.4962			
11	.3838			
12	.7901			
13	.7944			
14	.5591			
15	.6582			
16	.3283			
17	.5412			
18	.5761			
19	.6517			

* Total variance accounted for by factors.

Tinsley (1987) as viable methods for choosing the number of factors to retain for rotation. Factor 1 accounted for 32.2% of the variance while Factor 2 accounted for an additional 9.3%, Factor 3 an additional 6.9%, and Factor 4 an additional 5.6% of the variance. The four factors combined accounted for 53.9% of the total variance for the scale. The final commonalities, eigenvalues, and the proportion of total variance explained by each of the rotated factors is found in Table 1. A four factor solution was ultimately selected after a varimax rotation. The rotated factor matrix, which includes factor loadings of the corresponding items, is found in Table 2.

Naming the Factors

The common rule of thumb of retaining and interpreting only those factor loadings which have a value of .30 or higher was utilized across all factors in this study (Tinsley & Tinsley, 1987). Possible answers for each item ranged from a score of 1 (rarely experienced) to 4 (always experienced) suggesting that the higher the score, the more stress experienced by the student. The various factors will be described below along with each item mean and its variance (Tinsley & Tinsley, 1987).

Factor 1. The eight items that comprised Factor 1 contained the following statements: Difficulty handling academic work load (M = 2.22, SD = .88), Difficulty because of feeling a need to perform well in school (M = 2.45, SD =

Table 2.--Principal-Components Factor Analysis Solution of
College Stress Inventory Using Varimax Rotation

Items	Factor Loadings

Academic Stress

9.	Difficulty handling academic work load	.79
15.	Feeling a need to perform well in class	.78
3.	Difficulty taking exams	.73
1.	Difficulty fulfilling responsibilities at home and school	.66
5.	Failing to meet family expectations	.64
14.	Meeting deadlines for course requirements	.55
6.	Difficulty participating in class	.55
8.	Difficulty handling relationships	.37

Acculturative Stress

19.	Difficulty from peers outside your ethnic group due to your ethnicity	.78
17.	Meeting peers from ethnic backgrounds other than your own	.72
10.	Peers treating you unlike the way they treat eachother	.62
16.	Difficulty from faculty on basis of your ethnicity	.51

Table 2--<u>Continued</u>.

7.   Living in the local community   .44

11.   Difficulty writing papers   .41

<u>Financial Stress</u>

12.   Difficulty paying monthly expenses   .87

13.   Family experiencing money problems   .86

<u>Intra-ethnic Stress</u>

2.   Trying to meet peers of your race/   .81
      ethnicity on campus

18.   Difficulty from peers within your   .69
      ethnic group due to ethnicity

4.   Finding support groups sensitive   .45
      to your needs

1.03), Difficulty taking exams (M = 1.98, SD = .88), Difficulty trying to fulfill responsibilities at home and at school (M = 2.05, SD = .86), A fear of failing to meet family expectations (M = 2.32, SD = 1.07), Difficulty meeting deadlines for course requirements (M = 1.68, SD = .84), Difficulty participating in class (M = 2.05, SD =.95), and Difficulty handling relationships (M = 1.80, SD = .83). The overall scale mean for Factor 1 is 2.06 with .85 as the item variance mean. Because of its relevance to scholastic endeavors, Factor 1 was labeled "Academic Stress."

Factor 2. The six items that comprised Factor 2 contained the following statements: Difficulty from peers outside your ethnic group due to your ethnicity (M = 1.47, SD = .73), Difficulty meeting peers from ethnic backgrounds other than your own (M = 1.47, SD = .77), Difficulty with peers treating you unlike the way they treat each other (M = 1.55, SD = .76), Difficulty from faculty on the basis of your ethnicity (M = 1.24, SD = .55), Difficulty living in the local community (M = 1.34, SD = .65), Difficulty writing papers (M = 1.92, SD = 1.01). The overall scale mean for Factor 2 is 1.50 with .58 being the item variance mean. Factor 2 was labeled "Acculturative Stress" because the items seemed to center around acculturating to the mainstream college environment. This may be the type of stress someone from the "outgroup" might experience when they must interact cross-culturally, as Asian Americans often times do in predominately

Caucasian college settings.

Factor 3. The two items that loaded most highly on Factor 3 were "Difficulty paying monthly expenses" (M = 1.60, SD = .85) and "Difficulty due to your family experiencing money problems" (M = 1.63, SD = .93). The overall scale mean for Factor 3 is 1.62 with .80 being the item variance mean. Factor 3 was therefore labeled "Financial Stress" due to the items' focus on monetary difficulties.

Factor 4. The three items that comprised Factor 4 were: Difficulty trying to meet peers of your race/ethnicity on campus (M = 1.64, SD = .91), Difficulty from peers within your ethnic group due to your ethnicity (M = 1.40, SD = .75), and Difficulty finding support groups sensitive to your needs (M = 1.73, SD = .90). The overall scale mean for Factor 4 is 1.59 with .73 being the item variance mean. Factor 4 was named "Intra-ethnic Stress" because the content of these items focuses on the stress of trying to make social connections with other members of their own particular ethnic group. For example, this stress is thought to be found within the Chinese American ethnic group itself and not between the Chinese American and Korean American subgroup. The four factors and their corresponding items are found in Appendix B.

Reliability Estimates

Alpha reliability estimates were performed with each of the four stress factor subscales and were found to be adequate. The alpha coefficient for the Academic Stress scale

was .84; for the Acculturative Stress scale, the alpha coefficient was .70; for the Financial Stress scale, the alpha coefficient was .78; and for the Intra-ethnic Stress scale, the alpha coefficient was .63. The alpha reliability estimate for the entire stress scale was .88, which is more than adequate for research purposes. The reliability estimates for the College Stress Inventory can be found in Table 3. Because of their strength as reliable factors, the four stress subscales then served as the dependent variables in the following factorial analysis of covariance.

Multivariate Analysis of Covariance (MANCOVA)

An initial 2 (gender) X 5 (ethnicity) multivariate analysis of covariance, with grade level, cultural commitment, and generation as covariates, was performed to determine whether levels of stress differed as a function of students' gender and ethnicity. As mentioned before, the four stress scales, Academic Stress, Acculturative Stress, Financial Stress, and Intra-ethnic Stress, were used as the dependent variables. This particular analysis was inadequate, however, because of the numerous violations of assumptions for the MANCOVA procedure. Specifically, two univariate violations occurred with the homogeneity of variance assumption for the dependent variables of Financial Stress and Intra-ethnic Stress; the other violation was multivariate and occurred with the homogeneity of dispersion assumption. This preliminary assessment of both univariate and multivariate assumptions

Table 3.-- Total Scale and Subscale Reliability
Estimates for College Stress Inventory

Factor	Alpha Estimates
(1) Academic Stress	.84
(2) Acculturative Stress	.70
(3) Financial Stress	.78
(4) Intra-ethnic Stress	.63
Total Scale Alpha	.88

indicated that some of the variances were significantly different from one another and therefore depart from the sought after normality in such analyses (Norusis, 1990).

In an attempt to adjust for these violated assumptions, the Financial Stress factor was dropped as one of the dependent variables from the MANCOVA procedure. This was done for three reasons: (1) the Financial Stress factor correlated the least with the other factors as evidenced by the correlation matrix between stress factors (see Table 4), (2) the Financial Stress scale was comprised of only two items, and (3) the purpose of this study focused on ethnic issues and as such was less interested in exploring financial stress, which seems common to a vast majority of college students. After dropping the Financial Stress factor, the assumption of the homogeneity of variance was then retested using Bartlett-Box F, and this time, there was no violation of the assumption for Academic Stress (p < .66) and Acculturative Stress (p <.08). However, one violation of the univariate assumptions remained, and that was with Intra-ethnic Stress (p < .02). There was no violation of the homogeneity of dispersion assumption with this second check. In addition, the Bartlett Test of Sphericity was significant, suggesting that the correlation matrix is in fact different than an identity matrix, thereby providing ample evidence that the MANCOVA should be performed.

Recall that the variables chosen as covariates were done

Table 4.--Correlation Matrix between Stress Factors

	Factor 1	Factor 2	Factor 3	Factor 4
Factor1	5.0177			
Factor2	.5925	2.7671		
Factor3	.3785	.3036	1.5506	
Factor4	.4549	.5676	.2510	1.9149

Note: Standard deviations on diagonal.

so because the literature pointed to the possibility of a relationship between these variables and the chosen dependent variables. Therefore, before the MANCOVA was performed, a significant relationship needed to be established between the covariates and at least one of the dependent variables. This was done to provide supporting evidence that cultural commitment, generation, and grade level are in fact related to the dependent variable and should be therefore controlled for by submitting them as covariates into the equation. Table 5 lists the entire correlation matrix between the covariates and the three dependent variables. The results of the correlation matrix showed that grade level was significantly related to Academic Stress ($r = -.1837$, $p < .0001$), generation was significantly related to Acculturative Stress ($r = -.1066$, $p < .011$), and cultural commitment was significantly related to Acculturative Stress ($r = -.1945$, $p < .0001$). Based upon prior research findings and these significant relationships, the variables of cultural commitment, generation, and grade level were used confidently as covariates in the multivariate analysis of covariance.

The 2 (gender) X 5 (ethnicity) multivariate analysis of covariance was then performed a second time, again with grade level, cultural commitment, and generation serving as the covariates. This time, the three dependent variables retained were Academic Stress, Acculturative Stress, and Intra-ethnic Stress. The number of possible cases analyzed was reduced

Table 5.--Correlation Matrix between Covariates and
Stress Dependent Variables

	Dependent Variables		
	Academic	Acculturative	Intra-ethnic
Covariates			
Grade level	r = -.1837 * (N=566)	r = -.0724 (N=563)	r = .0057 (N=558)
Generation	r = .0199 (N=568)	r = -.1066 ** (N=566)	r = -.0167 (N=561)
Cultural commitment	r = -.0086 (N=562)	r = -.1945 * (N=559)	r = .0122 (N=555)

* $p < .0001$

** $p < .011$

when only the five largest ethnic groups were selected for the MANCOVA; a total of 537 cases were accepted into the analysis (Note: this number represents the number of cases out of the 584 cases that had no missing values). The first part of the MANCOVA procedure includes a regression analysis for the covariates, which establishes the relationship (beta) and the strength of the relationship (eta) between the covariates and dependent variables. The regression analysis of the covariates revealed a significant inverse relationship between grade level and Academic Stress (B = -.1558, eta = .024, p < .000), meaning that the covariate, grade level, accounted for 2.4% of the variance in Academic Stress, which is a significant contribution. The regression analysis also revealed a significant inverse relationship between cultural commitment and Acculturative Stress (B = -.1451, eta = .016, p < .004), meaning that the covariate, cultural commitment, accounted for a significant amount of the variance in Acculturative Stress (1.6%). However, the third covariate, generation, did not account for a significant proportion of the variance for any of the dependent variables. Table 6 shows the regression statistics associated with each covariate for each dependent variable.

In the multivariate analysis, the MANCOVA revealed significant differences in levels of stress only for ethnicity (Wilk's lambda = .91), $F(4, 524) = 4.18$, $p < .000$, while no main effect for gender, $F(1, 524) = 1.29$, $p < .28$, was found.

There were also no two-way interaction effects between ethnicity and gender, $F(4, 524) = 1.73$, $p < .06$. The means were then adjusted for the effects of the covariates and utilized in the remainder of the analyses.

Because there was a significant main effect for ethnicity in the multivariate analysis, follow-up univariate analyses of covariance were conducted on the dependent variables Academic Stress and Acculturative Stress using adjusted means, with grade level, cultural commitment, and generation again serving as the covariates. Tukey's HSD was used as the multiple range test with significance level of .05 in all of the post hoc comparisons. For Academic Stress, the univariate F tests revealed significant differences between ethnic groups [$F(4, 530) = 3.45$, $p < .009$]. More specifically, the Korean American group reported significantly more academic stress ($M = 17.36$) than the Asian-Indian American group ($M = 15.55$). There were no other significant differences between ethnic groups in this post hoc analysis. It seems the Asian Indian American college students are reporting significantly less academic stress than their Korean American counterparts. Results of this Oneway ANCOVA for Academic Stress can be found in Table 7.

For Acculturative Stress, the univariate F tests again revealed significant differences between ethnic groups [$F(4, 530) = 6.25$, $p < .0001$]. More specifically, both the Korean American group ($M = 9.61$) and the Taiwan American group ($M =$

Table 6.--Regression Statistics for Covariates

Dependent Variable			
Covariates	Beta	Eta	Sign.of t
Academic Stress			
Grade	-.1558	.024	.000 *
Generation	.0243	.001	.619
Cult.Comm.	-.0313	.001	.533
Acculturative Stress			
Grade	-.0785	.006	.069
Generation	-.0378	.001	.435
Cult.Comm.	-.1451	.016	.004 *
Intra-ethnic Stress			
Grade	.0192	.000	.666
Generation	-.0279	.001	.577
Cult.Comm	.0221	.000	.666

* Significant at the .05 level.

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9.74) reported significantly more acculturative stress than the Asian Indian American group (M = 8.13). There were no other significant differences between ethnic groups in this post hoc analysis. It appears again that Asian Indian American students are reporting significantly less acculturative stress than Korean American and Taiwan American college students. Results from the Oneway ANCOVA for Acculturative Stress can be found in Table 8.

In summary, the post hoc analysis of covariance revealed that there were significant differences in both Academic and Acculturative Stress for several of the ethnic groups that were studied. Asian Indian American students reported the least amounts of Academic Stress and Acculturative Stress. The Korean American students reported the most Academic Stress while the Taiwan American students reported the most Acculturative Stress.

Table 7.--Oneway ANCOVA of Academic Stress by Ethnicity

Ethnicity	n	adj. M
Academic Stress		
Chinese Am.	85	15.55
Indian Am.	116	15.55
Korean Am.	131	17.36 *
Filipino Am.	115	16.99
Taiwan Am.	91	17.24

* Significantly different from Indian American group at
the .05 level.

Table 8.--Oneway ANCOVA of Acculturative Stress by Ethnicity

Ethnicity	n	adj. M
Acculturative Stress		
Chinese Am.	85	8.91
Indian Am.	116	8.13
Korean Am.	131	9.61 *
Filipino Am.	115	8.79
Taiwan Am.	91	9.74 *

* Significantly different than the Indian American group at the .05 level.

CHAPTER V

DISCUSSION

There were two primary reasons for exploring the topic of Asian American college students and their levels of stress in regards to their specific college experiences. One was to validate a stress scale to use with specific subgroups of Asian American college students. The scarcity of culturally valid instruments warranted the factor analysis of this scale which resulted in a measure that can be used with a variety of Asian American subgroups which include Indian American, Chinese American, Filipino American, Korean American, and Taiwan American college students. The factor analysis did present four adequately reliable stress factors entitled: Academic Stress, Acculturative Stress, Financial Stress, and Intra-ethnic Stress.

The other reason for this study was to explore the relationships of ethnicity and gender to these four areas of stress with an exploration of the influence of grade level, cultural commitment, and generation on these same areas of stress. No directional hypotheses were tested in this study due to the lack of established trends in previously published research. The findings related to the five research questions showed that students' ethnicity was significantly related to

their levels of perceived stress, especially Academic Stress and Acculturative Stress. Also grade level and level of cultural commitment were significantly related to at least one area of perceived stress which supported using these variables as covariates. There were no significant differences for the variable of gender.

Stress Scale for Asian American College Students

The nineteen items chosen for the College Stress Inventory (CSI) were developed from a variety of sources. Solberg, et al. (1991) validated a similar 30 item stress scale with a Mexican American and Latino American population. He borrowed those items from both the Perceived Stress Scale (PSS) by Cohen, Kamarck, & Mermelstein (1983) and items written by Rocha-Singh (1990). Solberg's resulting scale reliably assessed perceived stress with Hispanic students. A factor structure similar to Solberg's, not a replication, resulted from the principal components factor analysis that was performed on the CSI.

The first factor, Academic Stress, pertained to primarily scholastic activities such as course load, exams, and class participation, meeting family expectations, and fulfilling home and school responsibilities. An item of concern on the CSI, "Difficulty handling relationships," loaded the highest on the Academic Stress factor with a loading of .37 and might have been excluded from the scale. However, the item is viewed as a "non-item," meaning that as it is stated

currently, it neither adds substantial strength to the factor nor takes away from it (alpha with item: .8442 versus alpha without item: .8452). Additionally, the item is believed by the author to have potential as a stress item and was kept so that it might be strengthened in subsequent research. To strengthen the item, the type of "relationship" should be specified (i.e. relationships with students in class, relationships with professors and deans, competitiveness versus collaborative studying) so that respondents can answer the question more accurately. Having difficulty handling relationships is likely to be stressful for many college students. If students are having difficulty with their peer relationships in class, with competitiveness for example, they would most likely report more academic stress.

The Acculturative Stress factor addressed the difficulty many students of color might experience when they are attending a primarily White institution. Items included such topic areas as meeting peers outside their own ethnic group, being treated differently by peers and faculty because of their ethnicity, living in the local community, and writing papers. The acculturative stress factor provides much pertinent information in this type of multicultural research. It is an adequate factor for research purposes, but could become stronger by adding more items thought to assess the stresses of acculturation (i.e. difficulty adhering to traditional culture/religion while attending college;

difficulty with oral or written expression due to language barriers; feeling unaccepted by both students of the majority and students of the minorities).

A strong factor containing only two items, was the Financial Stress factor. Paying expenses and family's experience of money problems combined to represent one factor assessing students' financial stress. In future research, more financial questions should be added in order to specify exactly what contributes to students' experience of stress regarding their finances. Those questions might pertain to the difficulties acquiring student loans, dealing with the financial aid office, work-study jobs or off-campus employment, and access to summer jobs.

The Intra-ethnic Stress factor addressed such issues as meeting peers of one's own ethnicity, difficulty from one's own ethnic group, and finding culturally sensitive support groups. Additional items might address the tension that has been historically reported/present within the same Asian subgroups such as between those born in the United States and those who were born in their country of origin (Sue & Frank, 1973). The tension being referred to is between ABC's (American-Born-Chinese), FOB's (Fresh-Off-the-Boat immigrants), and "Bananas" (Yellow on the outside and White on the inside) in relation to one another's "Chinese-ness" or ethnic pride. These issues have not been reported in the literature but have been discussed among Asian American

college students as part of Focus Groups held at the University of Pennsylvania. The finding of an Intra-ethnic stress is likely to an important contribution to the multicultural research done on stress and should be explored in future studies. Items addressing those tensions intra-ethnically would most likely strengthen that factor. It should be noted, however, that one of the benefits of the College Stress Inventory is its brevity. There is a delicate balance that needs to be achieved when revising such instruments so as to add to its reliability and validity without adding so many items that it requires substantially more time to administer and score.

In summary, the preliminary results provide evidence that the College Stress Inventory as a valid and reliable instrument to assess academic, acculturative, financial, and intra-ethnic stress of the following Asian American subgroups: Indian American, Chinese American, Filipino American, Korean American, and Taiwan American college students. In addition to being culturally valid, the instrument has many advantages over other stress scales, including its brevity to administer and score (only 19 items) and its non-threatening approach. As such, the CSI could be used both as a research tool and in an applied context. By allowing stress to be viewed as a normal, everyday experience, Asian American students can feel free to self-disclose in an open, honest way. College counseling centers and university medical centers could use

this information from the CSI in workshops and outreach programs, as well as in counseling intakes and therapy, to pinpoint troubled students. This scale, originally developed to collect valuable data in a culturally valid way, also has potential merits in a counseling context.

Future Research with the CSI

Even though the preliminary results appear promising, the College Stress Inventory needs additional research before it can be used with more confidence. First, the CSI needs to be cross-validated with more ethnic groups in both private and public institutions to increase its efficacy as a reliable and culturally appropriate measure of stress for college students. To build the CSI's predictive validity, studies are needed which assess the instrument's capacity to identify students at risk for experiences such as dropping out of college or having academic difficulties. For example, a study examining the hypothesis that those with higher stress scores are more likely to drop out than those with lower or "normal" stress scores would help establish the CSI and its validity. Exploring the CSI's ability to discriminate between clinical and non-clinical student groups is yet another way to gain pertinent validity data. Concurrent validity could be gained by comparing the College Stress Inventory to other stress measures such as the Perceived Stress Scale (PSS; Cohen, Kamarck, and Mermelstein, 1983), the Hassles and Uplifts Scales (Kanner, Coyne, Schaefer, and Lazarus, 1981), and the

Psychological Distress Inventory (PDI; Lustman, Sowa, and O'Hara, 1984). Such future research could be used to help establish the CSI as a culturally appropriate measure of stress for students in college.

Ethnicity and Stress

Significant differences were found between the different ethnic groups on two measures of stress: Academic and Acculturative. Asian Indian Americans seem to experience significantly less academic stress than do Korean Americans. There were also differences found between ethnic groups in regards to acculturative stress. Indian Americans were again seen as experiencing less stress, in this case as compared to Korean American and Taiwan Americans. It appears that both Taiwan American students and Korean American students experienced significantly more acculturative stress than the Asian Indian Americans, with the Taiwan Americans experiencing the most of all five groups. No differences were found between the Asian American subgroups in regards to Intra-ethnic Stress or Financial Stress. Recall, however, that the two item Financial Stress factor was dropped from the multivariate statistics due to both violated assumptions, the number of items the factor represented, and because it wasnot necessary to explore in this particular study. The overall findings seem to suggest consistencies for Indian American and Korean American students. As compared to other Asian American subgroups, Indian American students fare better overall in

regards to academic and acculturative stress. On the other hand, Korean Americans fare worse than other Asian American subgroups in regards to academic stress and acculturative stress, except for Taiwan American students, who fare the worst in regards to acculturative stress.

There are a few possible explanations for these notable differences found in the perceived stress between Asian American college students. One is that these differences are meaningful differences that are a function of the particular cultures that comprise this sample. In support of this hypothesis, it is important to note that the majority of the sample is first generation. Most likely, first generation students have held on to many of the traditional values of their culture of origin and are not far removed from their psychosocial histories. To understand why Indian Americans seem to fare better than other Asian American subgroups when it comes to their experience of academic and acculturative stress, it may prove enlightening to look into India's cultural history. Sinha (1988) discussed the recent changes in the last thirty to forty years which have transformed India into a more Westernized country. In 1956, a government sponsored attempt was made to motivate India's people in their economic growth in order to compete with or equal the more economically developed Western countries. The people of India were told that to accomplish this, the entire society needed to change. The cultural contexts slated for change included

specifically: the family system (women achieving equality), education, social structure (caste system discouraged), and the values and attitudes of the Indian people. As a result of this movement, a more Westernized society began to emerge. The traditional family structure, which valued the extended family, weakened in the wake of rapid industrialization. Concurrently, the nuclear family with more emphasis on the individual as opposed to kin, was seen more often than not. Many times the nuclear family had to move away from the extended family to larger, industrialized cities to find work. Individuation from parents used to be discouraged and was therefore rare with Indian adolescents; however, now due to mother working outside home and being far from supportive extended family, separation/individuation was a necessary development. Day cares, schools and peers took the place of the extended family or kin as children's primary sources of socialization. These are all familiar occurrences in the United States.

The proposition is that India's culture may in fact be more like mainstream United States culture than are the cultures of Korea, the Philippines, Taiwan, and China. Consequently, first generation Indian American students (at least in this sample) do not have as much difficulty adjusting to the North American college experience as other ethnic groups might have and therefore would not experience as much academic or acculturative stress while there. Extending this

proposition further, the Korean culture may be most unlike that of the United States in comparison to the aforementioned ethnic groups in regard to academic issues. Likewise, something inherent in the Taiwan culture (i.e. language, religion, food, music, values) may make it more difficult for these students to acculturate to the United States' way of life. These factors may help contribute to the differences found among these students' levels of perceived stress.

Another viable hypothesis is the possibility that these are not actual differences in levels of stress, but instead are differences in the reporting of stress. What one culture perceives as stressful, another may not (Aldwin & Greenberger, 1987; Guarnaccia, Good, & Kleinman, 1990; Jenkins, Kleinman, & Good, 1991; Kleinman, 1988; Newcomb, Huba, & Bentler, 1986; Weiss & Kleinman, 1988). If this explanation is accepted, then Newcomb's, et al. (1986) finding that different cultures perceive stress differently is supported. Also, Aldwin and Greenberger (1987) found that Koreans expressed more depressive symptomatology than Whites and the specific predictors of depression were different for Koreans and Caucasians. In the current study as well, Korean Americans reported more academic and acculturative stress than other Asian ethnic groups, excluding Taiwan Americans for acculturative stress. A similar effect could be occurring in this study as well. Specifically, Korean American and Taiwan American students may be operating under different perceptions

or world-views than other Asian American subgroups in regard to what is considered stressful in their lives.

Kleinman concluded from his research that there exists a phenomenon that he labeled: "culture-bound syndromes." Through their research, Kleinman and his associates have observed that even though psychological disorders are universal, the expression of those disorders is not and depends greatly on the person's culture. Furthermore, he and his fellow researchers questioned the validity of the then-current diagnostic classification system (DSM-IIIR) and suggested that measures be developed that can accurately assess the cultural meaning of the symptoms. The CSI is an attempt to do just that. This measure does not provide a psychiatric diagnosis, but it does attempt to accurately assess stress by looking at what is symptomatic of stress in specific Asian American college subgroups. Whether or not the reported differences are artifacts of a specific cultural interpretation or actual differences in experienced stress, the relevant issue is that a certain perception of stress exists.

The evidence, based on this study, is clear that significant differences are found between Indian American, Korean American, and Taiwan American college students. It may be concluded therefore, that skilled social science researchers should no longer continue the practice of grouping all Asians together into one melting pot as if they were the

same if their purpose is to truly understand the diversity of these groups. Clinicians also need to take special care to understand their clients' world-views and not simply rely on sweeping generalizations about a race as a shortcut to psychotherapy. It seems important, too, to use caution in regards to the weight attributed to these differences found between ethnic groups. We cannot generalize these findings to the same ethnic groups in the general population. Rather, these findings are specific to Asian American college students because of the age and shared experiences of the population. Continuing this type of multicultural research with other populations outside of the college setting should prove useful and enlightening.

Gender and Stress

In regard to gender, no main or interaction effects for gender were found. These results indicate that there were no significant differences found between the male and female students overall in their levels of perceived stress. These particular results are in line with previously mentioned studies in which no significant gender differences were found among male and female undergraduates (Hamilton & Fagot, 1988), Japanese American undergraduates (Padilla, Wagatsuma, & Lindholm, 1985b) and male and female college students in general (Zuckerman, 1989). Therefore, based on these findings, neither Asian American men nor women should be singled out as needing more assistance coping with stress than

the other; rather, both genders are encountering stress and as such should be provided with equal access to services.

Cultural Commitment, Generation,

Grade Level and Stress

The three covariates: cultural commitment, generation, and grade level, were chosen because of their expected and established relationships to stress in past research. Again, in the current research, significant relationships were established. In particular, cultural commitment was significantly related to Acculturative Stress and grade level was significantly related to Academic Stress.

Cultural Commitment

The variable of cultural commitment represents the person's pride in their culture, their language preferences with family and friends, and with whom they identify as being similar. Higher numbers reflected less commitment to one's own culture of origin and more commitment to the Anglo culture while lower numbers reflected the opposiste. The results of this study evidenced a significant inverse relationship between cultural commitment and stress. This means that as students scored higher on the measure of cultural commitment (to Anglo culture), the less Acculturative Stress they experienced. The more Asian American students commit to their cultures of origin, the more Acculturative Stress they will feel/report. These findings support the results of other research (Padilla, Wagatsuma, & Lindholm, 1985a; Yu & Harburg,

1980) that found an inverse relationship between cultural commitment and stress. It also supported the use of the variable as a covariate in the statistical analyses.

Not only does the significant finding provide evidence for using it as a covariate, but it also provides useful information in and of itself. At the risk of oversimplication, the message to Asian American students may be: Become more like the majority, and in return, you will experience less difficulty succeeding in and being accepted by the college and local communities. In other words, this may be evidence that the majority culture is pressuring students of color to give up their cultures in order to reduce stress rather than an internal coping mechanism used by the student. It seems that weakening one's cultural ties is associated with lower levels of perceived Acculturative Stress. Many students may feel the prejudice from others if they were to speak in their native language or take pride in their own histories while in a college setting. The push to assimilate may be so strong for college students that they must give up their traditions and heritage in order to be accepted by their peers and teachers.

Grade Level

A significant inverse relationship established between grade level and Academic Stress allowed it to be entered as a covariate in the analysis of covariance. It also allows us to speculate about the reasons for the decrease in Academic

Stress as one's grade level increased (i.e. freshman to graduate student). Recall that Academic Stress is comprised of items covering academic work load, family pressures, and classroom performance. It seems that by the time students make it to graduate school, they have successfully accomplished the management of their academic workloads and test taking strategies. Another contributing factor to less academic stress may be a direct result of the separation/individuation process that often times is accomplished during the college years. In other words, upperclasspersons may experience less stress from family of origin than underclasspersons simply because of their age and maturity level. Usually, they have successfully resolved their "identity crisis" and now are less bothered or stressed by family of origin pressures and expectations. It should be noted, too, that these findings may be a self-selection bias, that is, only those students that are able to manage their academic stress would choose to attend graduate school. That is not to say graduate school is not stressful academically, rather, these students know how to manage such difficulties as meeting course deadlines, participating in class (smaller number of students in the class room is more likely), and taking exams more effectively than the underclasspersons. It is also possible that Asian American graduate students could be reaping the benefits of the model minority status and are perceiving different treatment than they did as

undergraduates, such as expert status or greater respect from colleagues.

<u>Generation</u>

Laypersons, researchers, and clinicians alike often times misuse the term of generation. Many believe being an immigrant is different from being first generation. In this study, students were clearly identified as first generation = immigrant, not born in the U.S.; second generation = student was born in the U.S.; and third/later generation = at least one parent born in the U.S. Unlike the variables of cultural commitment and grade level, generation did not have a significant relationship to stress. This conflicts with the results of Padilla, Wagatsuma, and Lindholm (1985a) which found first generation subjects reported more acculturative stress than later generations. Therefore, because of these findings, we have no adequate basis for making claims regarding the effects of generation on stress.

A reason for this nonsignificant relationship may be that generation and stress are related to yet a third variable such as social support, financial support, language competency, or unwillingness to report stress. For example, most first generation students may speak English as a second language. It may be the accent that sets them apart from their peers, and thereby causes stress instead of generation itself that is linked to stress. They may have difficulty fitting in with the college culture, are treated differently than others are

treated not just for looking different, but for sounding different. In other words, it may those things that are associated with generation that result in stressful experiences.

Implications of Current Study

These results may act as a catalyst in the development of a research program exploring additional research and clinical trials which are needed to sustain these results. More research needs to be done, of course, to know what the specific needs of Asian American college students are. The body of literature must be expanded before we can implement with great confidence any ideas that this research has provided. However, the following are some preliminary avenues that could be utilized to help ease the stress of Asian American college students.

Addressing Academic Stress

Contrary to popular belief, Asian American students do experience academic stress. In this study, Asian Indian Americans reported experiencing less academic stress than Korean Americans. This does not mean that Asian Indian Americans do not experience any academic stress, rather, they reported less of it. Possible ways to decrease academic stress in general, especially for underclasspersons who tend to report more stress, is to offer more accessible tutoring, test taking workshops, time management workshops, career counseling, academic advising, and workshops for parents that

might focus on how to help alleviate their son/daughter's academic stress instead of adding to it.

Addressing Acculturative Stress

Many authors have found an inverse relationship between level of acculturation and psychological stress symptoms (Abe & Zane, 1990; Dyal & Dyal, 1981; Gim, Atkinson, & Whiteley, 1990; Padilla, Wagatsuma, & Lindholm, 1985; Wong-Rieger & Quintana, 1987). In other words, the more acculturated or acclimated to the host society, the less stress he/she experiences. Not only does mainstream America need to focus on prescriptive measures of alleviating stress, but more importantly, they need to become more tolerant of diversity and instead provide an accepting environment where it is easier to live.

In targeting those experiencing difficulty with acculturative stress, it may be useful to gear support groups or outreach activities to address such issues as inter-ethnic difficulties with faculty and peers, writing papers, and living in the local community. Asian American forums, assertiveness training workshops, inter-racial relationships support groups could help address acculturative stress on a group level. It is also important for those providing individual counseling to be aware of those students that could be at risk, such as first generation students and Taiwan American students, and be able to respond appropriately with cultural sensitivity to the students' needs. Psychologists

may need to provide more practical assistance than is customary in the therapeutic relationship in order to help the student maneuver in the college environment. For example, helping students make the appropriate connections with the Financial Aid office or Registrar could greatly alleviate undo stress.

To focus only on the ways Asian American students could adapt to the mainstream educational system is to deliver the message that they are the source of the problem. While providing suggestions on how to help students adjust, we must also focus on adjusting the system to meet these students' needs. To do this is to become less focused on how others can change to suit the majority's needs and more focused on how the educational system can accommodate to others' world views. Requiring group projects in the classroom instead of, or in addition to, the individual competition which is practiced more in Western societies might be a small change that could be easily made. Providing yearly diversity training to faculty, staff, and students, and co-sponsoring community based projects (such as building playgrounds) with local community organizations are other ways that may help educate and sensitize the educational system and community at large to become a more accepting environment. On a larger scale, colleges and universities could offer culturally diverse curriculums including the languages, history, literature, and art of various ethnic cultures. These Asian studies

departments would allow students to socialize both within and outside one's own ethnic group, while allowing Asian Americans to feel a sense of pride in their heritage. It is surely true that pride in one's culture of origin is difficult to maintain especially when the curriculum tends to focus predominately on White, male theories and accomplishments. A truly multicultural liberal arts curriculum, one that highlights stellar achievements in a variety of cultures, would possibly help Asian American students maintain their pride and commitment to their cultures of origin.

Support Services for Asian Americans

Varying levels and types of social support are purported to serve as protection against stress (Barling, MacEwen, & Pratt, 1988; Cohen & Wills, 1985; Cutrona, 1990; Elliott & Gramling, 1990; Jung, 1990). This finding remains consistent when looking at the stress buffering effect of social support for Asian Americans (Kuo & Tsai, 1986; Lin, Simeone, Ensel & Kuo, 1979; Van Tran, Wright & Mindel, 1987). It seems important, therefore, to discuss the possible ways college counseling centers could help facilitate the acquisition of social support for Asian American subgroups. Sponsoring specific ethnic social groups on campus provides a safe place where students could feel comfortable and not so out-of-place in an environment that is often isolating, hostile, competitive, and unresponsive to their needs of feeling a part of the greater whole. These primarily social groups could

again help alleviate some of the stress the Asian American students may feel by providing a buffer against stress. Counseling services are another way to help.

Traditionally, Asians are thought to internalize or repress their problems as opposed to seeking help from others in the community (Sue & Kitano, 1973; Sue & Morishima, 1982). It is also documented that Asian Americans do not utilize mental health facilities as much as other racial groups, usually attempting to avoid shame (Root, 1985). Recent research has supported the finding that willingness to seek counseling is related to Asian American's level of acculturation (Gim, Atkinson, & Whiteley, 1990). As Asian American college students become more acculturated, their numbers in counseling centers increase. It is an important training issue for college counseling centers in particular to be prepared to work with Asian American clients, as well as other peoples that are culturally diverse.

Psychotherapy or counseling is a foreign concept to many Indochinese students depending on their level of acculturation or particular family backgrounds. In Sue and Sue's (1990) book on counseling the culturally different, they devote an entire chapter to treatment issues with Asian Americans. The first step in counseling Asian Americans may be to assess what their understanding of psychotherapy is, considering Nguyen's (1985; cited in Sue & Sue, 1990) contention that many Southeast Asian countries view psychological problems no

differently than insanity. The traditional Asian culture that respects elders, is interdependent, and is emotionally inhibited may conflict with the Westernized therapist that tends to expose the faults of parents, encourages signs of independence, and considers the process of "working through" to include displays of intense affect. A therapeutic impasse may arise when both client and therapist do not hold similar values or world-views. The extent to which these cultural conflicts will become an issue in therapy may depend on how the client has adjusted to the demands put on him/her by two very different cultures.

Sue and Sue (1990) attempted to address this issue by characterizing three separate "types" of Asian Americans that may come through a psychologist's door seeking psychological treatment. First is the "traditionalist" client who maintains traditional Asian cultural values. They suggested that a counselor working with this type of client may need to do the following: take more time to explain the process of therapy, take a more active role in session, and become more adept at identifying indirect expressions of psychological problems such as somatization, career concerns, and academic or work difficulties (Sue & Sue, 1990). For those clients who are in school, it would be helpful to teach clients about American culture and the educational system so that they can maneuver through it more easily. Issues of shame around coming for therapy, feelings of guilt because therapy is equated with

being weak, and confidentiality are bound to be major concerns for the "traditionalist" client. Career counseling could be a benign avenue into working on deeper issues while allowing the traditionalist client to maintain their dignity.

The second identifying label given to Asians involved in psychotherapy is the "marginal" client. These individuals may present with identity issues as they are forced to assimilate/acculturate to the mainstream and give up their Asian identities. They become ashamed of their cultural heritage which leads often times to self-hatred. The counselor working with this type of client may use the following strategies: teach them that they can acculturate on many different levels without giving up their cultural heritage (such as the case many times with assimilation); empathize with their difficult marginal position (being caught between two cultures); and use the CSI or other appropriate tests to aid in fostering self-acceptance as opposed to self-hatred. Themes related to the conflict between establishing their own independence and rebellion against parental control may arise with this type of client. The culturally sensitive therapist may want to help the client see the difference between the two, that they can work toward independence without destroying their relationship with their parents. To do this, the focus of counseling might be on how the client can educate parents, learning how to negotiate as adults, and deciding upon the battles they choose to fight in order to win

the war.

The third type of client is characterized as the "Asian American." This individual is at a level where he/she is proud of their cultural identity and works to change racial injustice through political activism. This pride in one's own culture is healthy and only becomes counterproductive in therapy when it fosters a mistrust of the ethnically different therapist. For example, the White therapist may be seen as a representative of the Establishment which could hinder the freedom of the client's expression (Sue & Sue, 1990). The White therapist might also be seen as harboring hostile feelings toward the client which could produce the same obstacles to therapy. Therefore, it is important for White counselors to be aware of their privilege as Whites in American society and to not become defensive when anger is expressed directly or indirectly toward the majority culture. For the African American counselor, it is also paramount that they be aware of the racial tensions that have been historically present in the United States between these two groups in order to process any negative countertransference feelings that may impede the therapy process. Therapists of any ethnicity should encourage an open dialogue at the onset of therapy so that political, economic, and social issues can be addressed as they arise in order for personal exploration, resolution, and finally, change to occur.

Considering the results of this study, however, the

process of characterizing clients simply as "traditionalist," "marginal," and "Asian American" in order to offer appropriate psychotherapy may fall short. It has been evidenced in this study that the Asian American experience in college is complex and may be different depending upon whether one is Asian Indian American, Filipino American, Chinese American, Korean American, or Taiwan American. Therefore, a model that takes into account all of the complexities of race, culture, and values is needed. Leong (1994) attempts to do just that with his integrative model for approaching counseling with clients that are different than ourselves. His tripartite model is based on Kluckhohn & Strodtbeck's 1961 work that attempted to categorize human values across cultures. Leong proposes that all counseling relationships are cross-cultural because we all come from different families, schools, and areas of the country, are of varying levels of emotional stability, holding different values, morals, and feelings of spirituality, not to mention ethnicity, gender and sexuality. In his bio/psycho/social model, Leong talks of the client on a group level, individual level, and universal level. Most models and research is done on the group level for simplicity's sake. However, when we carry out research on such focused groups as "Asian Americans," we run the risk of perpetuating stereotypes. Instead of gleaning important data, we get what social psychologists call a "outgroup homogeneity effect" where clinicians and scientists alike see all Asians

possessing academic excellence, for example, instead of only those that were participants in the study. The alternative of looking at the individual in a case study is not cost effective and is not usually rewarded in the field of psychology. This is evidenced by the very few published case studies found in respected scholarly journals. The individual level is helpful however to explore the unique circumstances that play a part in the person's psychology. We also need to look at the universal aspects of the client, or a more humanistic approach to therapy. Harry Stack Sullivan's statement, that we are all more simply human than otherwise, more alike than different, begins to address the basic human emotions of love, hate, sadness, disappointment, joy, and happiness that we all are capable of feeling. This philosophy is a primary component of the humanistic approach to therapy and seen by some contributors to and consumers of therapy as too simplistic. As all of these examples have shown, any linear choice a scientist/practitioner makes remains unsatisfactory.

Leong calls for multidimensional models of counseling which incorporate the group, individual, and universal levels of research and practice. If the Asian American client presents at the group level (i.e. reacting to racist comments) and the White therapist responds on a universal level (i.e. empathizing with the hurt feelings), then an emotional connection will be difficult if not impossible to make.

Instead, Leong suggests that the therapist match the client on whatever level the client presents on. In this case example, the therapist should respond on a group level by calling attention to his/her own race and the therapist's difficulty in knowing what the experience of racism would be like. Leong calls this process in therapy, "cross cultural eclecticism." This model is bound to work with any theoretical orientation as well. The counselor has the flexibility to use whichever framework is appropriate with the client while working at the individual level. In other words, when the client presents with intrapsychic pain which is the product of conflict with the client's parent (the individual level), the therapist may respond by choosing a psychodynamic, cognitive-behavioral, or client-centered intervention. By using this tripartite model, therapists can accurately match their clients on any level while using the theoretical orientation that is most appropriate for them. The results of this study both support and expand upon Leong's tripartite model. Therapist and client may appear to match on the group level if from the same racial background. However, the different levels of stress found between particular Asian American groups of students are a subtle reminder to therapists not to automatically assume that they know what difficulties their clients have encountered in college simply because they are of the same racial background.

Study Limitations and Future Research

Most respondents to the survey were first generation/immigrants to the United States and the questionnaire was written in only English. There was no way that the survey assessed the respondents' language competency and therefore was no way to know that questions were read, understood, and answered accurately. However, a misunderstading is unlikely considering all students were at the college level, which assumes a certain level of language competency. A simple way to establish the accuracy of the responses is to ask a question at the end of the survey such as, "Did you understand all of the questions asked of you on this survey?" It is also possible to provide different versions of the CSI in the preferred language of the respondent if it is clear that many of the respondents may have an English language barrier.

Surveys are also a limiting way to access information due to their self-report nature. Empirical research should be done to actually test out the subjects' reported behaviors. The survey itself may have been an intervention and as such may have changed the subjects' level of stress. That is, the act of answering the College Stress Inventory may have heightened the subjects' awareness of or actual levels of stress and the reported stress levels may be an inflated account of their actual experiences. However, this is unlikely to confound the study due to all subjects receiving the same survey and due to the benign nature of the

instrument.

Another limitation of this study was that the measurement of the variable "ethnicity" was not as accurate as it could have been. In this study, ethnicity was assigned to students when their lineage included more than one ethnicity. The decision was based upon where the majority of the respondents' ancestors came from. This system does not take into account the effects of different family backgrounds that may contribute substantially to their levels of stress. For example, a student may be the offspring of a Chinese American mother and an Asian Indian American father who pass down conflicting messages of Confucian philosophy and the Hindu religion, respectively. In future studies, it may prove more enlightening and accurate to include an ethnic group of "bi-ethnic" students. In that way, bi-ethnic students' stress levels could be compared to the other various ethnic groups being studied.

Summary and Conclusion

In this study, the levels of stress were measured by an instrument validated with an Asian American college student population and was therefore more accurate than would be possible with other stress measures previously seen in the literature. The culturally valid measure was used to illuminate important differences in levels of stress between various subgroups of Asian American college students. The study not only explored ethnic differences, but also the

relationship between particular variables (i.e. generation, cultural commitment, and gender) and stress as opposed to the traditional method of comparing races on measures of stress. These results were used to discuss cross-cultural counseling strategies as well as to develop outreach programs that could help students at risk. Through research and counseling, we can begin to bring into balance the historical inequities placed upon minority students in a prejudiced society.

To suggest only remedial prescriptions for the problems experienced by Asian American college students is to disregard the role societal influences play on the students' experiences of stress. Consequently, we also need to attend to those that make the rules, the White majority, and the structure of their social institutions. Michelle Fine (1994) argued that institutions such as the educational system and the media play a major role in developing what is called, "oppositional identities." Fine believes that when one group is denigrated or held down, the other can remain on top. Over time, we begin to see real differences between these groups that appear to be competence, intelligence, or merit, which is in reality entitlement or White privilege. We are colluding with these sometimes subtle and sometimes glaring discriminating practices when we pretend that White privilege does not exist (Fine, 1994). We should not continue to focus on the successful top 10% of various Asian subgroups to support educators' claims of equal treatment and education for all

students.   Nor should we use that 10% to calm our helping-profession consciences, thereby allowing us to forget the 90% that are left behind.   Instead, we must look at and address the needs of the entire distribution in the student community before we conclude Asian Americans have successfully attained academic success or psychological well-being.

APPENDIX A

COLLEGE STRESS INVENTORY

Directions: In the last month, how often have you experienced the following (1 = Rarely, 2 = Sometimes, 3 = Often, and 4 = Always).

Items:

1. Difficulty trying to fulfill responsibilities at home and at school?
2. Difficulty trying to meet peers of your race/ethnicity on campus?
3. Difficulty taking exams?
4. Difficulty finding support groups sensitive to your needs?
5. A fear of failing to meet family expectations?
6. Difficulty participating in class?
7. Difficulty living in the local community?
8. Difficulty handling relationships?
9. Difficulty handling your academic work load?
10. Difficulty with peers treating you unlike the way they treat each other?
11. Difficulty writing papers?
12. Difficulty paying monthly expenses?

13. Difficulty due to your family experiencing money problems?

14. Difficulty meeting deadlines for course requirements?

15. Difficulty because of feeling a need to perform well in school?

16. Difficulty from faculty on the basis of your ethnicity?

17. Difficulty meeting peers from ethnic backgrounds other than your own?

18. Difficulty from peers within your ethnic group due to your ethnicity?

19. Difficulty from peers outside your ethnic group due to your ethnicity?

College Stress Inventory used with expressed permission by the director of this dissertation, V. Scott Solberg, Ph.D.

APPENDIX B

Factor Names and Corresponding Items

Academic Stress (Factor 1):

9. Difficulty handling academic work load.

15. Difficulty because of feeling a need to perform well in school.

3. Difficulty taking exams.

1. Difficulty trying to fulfill responsibilities at home and at school.

5. A fear of failing to meet family expectations.

14. Difficulty meeting deadlines for course requirements.

6. Difficulty participating in class.

8. Difficulty handling relationships.

Acculturative Stress (Factor 2):

19. Difficulty from peers outside your ethnic group due to your ethnicity.

17. Difficulty meeting peers from ethnic backgrounds other than your own.

10. Difficulty with peers treating you unlike the way they treat each other.

16. Difficulty from faculty on the basis of your ethnicity.

7. Difficulty living in the local community.

11. Difficulty writing papers.

Financial Stress (Factor 3):

12. Difficulty paying monthly expenses.

13. Difficulty due to your family experiencing money problems.

Intra-ethnic Stress (Factor 4):

2. Difficulty trying to meet peers of your race/ethnicity on campus.

18. Difficulty from peers within your ethnic groups due to your ethnicity.

4. Difficulty finding support groups sensitive to your needs.

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