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Testing two models of acculturation and well-being of Asian college students

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TESTING TWO MODELS OF ACCULTURATION
AND WELL-BEING IN ASIAN COLLEGE STUDENTS

A Thesis

Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Teresa Jamie Soriano

May 2009

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SAN JOSÉ STATE UNIVERSITY

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TESTING TWO MODELS OF ACCULTURATION AND WELL-BEING
IN ASIAN COLLEGE STUDENTS

by
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ABSTRACT

TESTING TWO MODELS OF ACCULTURATION AND WELL-BEING IN ASIAN COLLEGE STUDENTS

by Teresa Jamie Soriano

Changes can occur when different cultures come into contact; this process of change is called acculturation. Acculturation has been categorized into different degrees: marginalization, separation, integration, and assimilation. The degrees of acculturation appear to be protective in terms of mental health. However, there are discrepancies within the literature with regard to whether integration or assimilation would result in fewer symptoms of acculturative stress, depression, or anxiety. This study tested two models of acculturation to determine the strategy that resulted in better well-being.

Self-administered questionnaires were given to 100 Asian college students. Results suggest that acculturation was negatively correlated to acculturative stress. No other variables were significantly related to acculturation. However, a significant linear relationship was found between acculturative stress, depression, and anxiety. Implications of these results are discussed.

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TABLE OF CONTENTS

SECTION	PAGE
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
INTRODUCTION.....	1
Acculturation Strategies.....	3
Acculturation and Well-being.....	7
The Most Adaptive Level of Acculturation.....	10
Overview and Hypotheses.....	17
METHOD.....	21
Participants.....	21
Measures.....	26
Procedures.....	33
RESULTS.....	35
Descriptive Statistics.....	35
Correlations.....	36
Test of Linear Model.....	36
Test of Curvilinear Model.....	39
Post Hoc Analysis.....	39
DISCUSSION.....	44
Limitations and Future Research.....	46
Practical Implications.....	49

REFERENCES.....	51
APPENDIXES.....	56
Appendix A. Human Subjects-IRB Approval Letter.....	56
Appendix B. Participant Demographic Questionnaire.....	57
Appendix C. Consent Form	59
Appendix D. Campus Counseling Resources Handout	60

LIST OF TABLES

TABLE	PAGE
1. Berry's Four-Fold Model.....	6
2. Descriptive Statistics of Demographic Variables.....	22
3. Means, Standard Deviation, and Correlation of Measured Variables.....	37
4. Summary of Linear Regression Analysis of the Interaction Between Acculturation and Well-Being Variables.....	40
5. Summary of Curvilinear Analysis of the Interaction Between Acculturation and Well-Being Variables.....	43

LIST OF FIGURES

FIGURE	PAGE
1. Curvilinear Model of Acculturative Strategy and Mental Health.....	19
2. Linear Model of Acculturative Strategy and Mental Health.....	20
3. Indirect Relationship Between Acculturation and Symptoms of Depression, State Anxiety and Trait Anxiety.....	38
4. Linear Relationship Between Acculturation and Acculturative Stress.....	41

INTRODUCTION

Individuals migrate for various reasons. Whether the decision to move from one country to another is motivated by a voluntarily search of a better life, or is forced upon an individual due to social or political unrest, exposure to new people and customs is inevitable. This is especially true for culturally plural societies. In a culturally plural society, people from different backgrounds come to live together to create a diverse community (Berry, 1997). Their exposure to different cultures can change or influence an individual or even an entire group. The term used to describe these changes is acculturation.

More formally defined, acculturation is the process of cultural and psychological change that takes place because of contact between cultural groups and their individual members (Berry, 2005). The term acculturation has become synonymous with the term “assimilation” and sometimes confused with “adaptation.” For the former, Berry (1997) clarifies that assimilation is one of several forms of acculturation. In addition, assimilation is cultural change that occurs towards one direction while acculturation is more complex and has multiple choices and outcomes (Leong & Chou, 1994).

The distinguishing factor between acculturation and adaptation is that the latter refers to the changes that take place in response to external demands (Berry, 1997, 2005). While acculturation is a process, adaptation is the change that occurs during that process. The outcome of adaptation may or may not be positive (Berry, 2006). Those who are highly acculturated have chosen to fully adapt into the new culture while individuals who are less acculturated have chosen not to adapt into the new culture.

Acculturation can occur at a group or individual level. Berry (1987, 1994) identifies several areas in which changes may occur at a group level: physical, biological, cultural, political, economical, and in social relationships. Physical changes are those that occur in the environment. An increase in population density, new type of housing, and pollution are examples of physical changes. While physical changes occur externally, biological changes occur within the individual and can also affect the group. For example, exposure to a new disease or making changes in nutritional values could have an effect on individuals, as well as the group at large. Cultural changes may also occur; these become evident when there are, for example, changes in one's beliefs or values, linguistics, religion. Additionally, political changes may occur in the form of legal restrictions, economical changes may occur by gaining new employment, and, finally, changes in social relationships may occur with the inclusion of inter-group or interpersonal relationships.

There are two reasons for distinguishing changes that occur at a group level versus changes occurring at an individual level (Berry, 1997). First, it becomes possible to make examinations of the systematic relationship between levels. Group experiences (e.g., segregation from the dominant society) may explain changes that occur in individuals (e.g., an increase in stress) and vice versa. Second, not all individuals experience acculturation to the same extent as their group. For instance, the group in general may experience acculturation at a slower rate, but within that group are second and third generation individuals who are experiencing acculturation at a faster rate.

The changes that primarily occur at an individual level are behavioral shifts and acculturative stress (Berry, 1997). Behavioral shifts are changes in attitude, personality, abilities, or motives. Acculturative stress refers to negative consequences that occur during acculturation and may be evident psychologically, socially, and/or in one's physical health. This study focuses on the changes that occur on an individual level, specifically acculturative stress.

Acculturation Strategies

The extent to which an individual acculturates to the dominant culture may depend on the acculturative strategy he or she adopts in response to the new demands. The general assumption is that that a person who is highly acculturated has adjusted to the societal changes that have occurred and has learned how to live with them. In comparison, a person who is less acculturated has not adapted to the changes or is resistant to them. Assuming that an individual has the freedom to choose how to acculturate, Berry (1987, 1994, 1997, 2005) identifies four acculturation strategies which represents the varying levels of acculturation: *assimilation, separation, integration, and marginalization*.

There are two essential issues to address when determining which mode of acculturation is being utilized (Berry, 1994, 1997). The first issue is determining whether one should retain his/her own cultural identity and customs. The second issue is deciding whether it is valuable to maintain relations with the dominant society. Although the responses to these issues can be measured on a continuous scale, Berry (1997)

dichotomized possible responses into “yes” or “no” in order to better conceptualize the four-fold model.

According to Berry (1994, 1997), when the first issue is answered “no” and the second issue is answered “yes,” the individual has adopted the assimilation strategy. Individuals do not wish to maintain their cultural identity and are most likely to seek daily interaction with those from the dominant society or different cultures other than their own. It is expected that those who adopt the assimilation strategy would undergo the most significant changes.

Conversely, individuals using a separation approach to acculturation place a high value on preserving their original culture while avoiding interaction with those of the larger society and are likely to reject change. Their response to the issue regarding retaining their cultural identity would be “yes” and their response to valuing relationship with the dominant society would be “no.” For this group, maintenance of the traditional way of life outside of the larger society is desirable.

Integration is the option taken when the individual values maintaining both the original culture and becomes part of the larger society. An individual using this strategy attempts to integrate him or herself into the larger society while at the same time keeping his or her culture. In this case, the response would be “yes” for both issues.

Finally, the marginalization strategy is taken when there is little possibility of, or interest in, cultural maintenance, as well as having substantial interaction in developing relationships with members of the dominant culture. Individuals using this strategy lose cultural and psychological contact with both the traditional culture and the larger society.

This group would endorse neither issue. This strategy is usually not recognized by other models. Table 1 provides a graphical representation of Berry's four-fold theory.

According to Leong and Chou (1994), it is reasonable to combine Asian – American ethnic identity models with acculturation models into a single model to help guide research. Berry's four-fold model of acculturation parallels Sue and Sue's (1973) conceptualization of personality development in Asians residing in the United States. Based on their case studies, Sue and Sue (1973) examined how personality may be shaped depending on the actions that individuals, specifically Chinese-Americans, take toward traditional values while living in an American society. They identified three different personality types that may be adopted by an individual: the *traditionalist*, *marginal man*, and *Asian-American*. According to Sue and Sue (1973), personality type is determined by the decision to either conform or to rebel against parental values.

An individual with a traditionalist personality takes on the separation strategy. Sue and Sue (1973) described a traditionalist as a person whose primary and unquestioning allegiance is to his/her family. His/her identity, self-worth, and self-esteem rely on bringing honor and pride to the family name.

In contrast to the traditionalist, the marginal man cannot give unquestioning obedience to traditional parental values. Instead, the marginal man attempts to assimilate and acculturate into the major society. This individual's self-worth is based on the acceptance of the major society and blames Chinese values for lack of success.

Table 1

Berry's Four-Fold Model

Issue 2: Value
relationship with
dominant society

Issue 1: Retain own cultural Identity		
	YES	NO
YES	<p><u>INTEGRATION:</u> Maintains original culture and is part of the larger society.</p>	<p><u>ASSIMILATION:</u> Does not maintain original culture and seeks interaction with dominant society.</p>
NO	<p><u>SEPARATION:</u> Values preserving original culture and avoids interaction with dominant society.</p>	<p><u>MARGINALIZATION:</u> No interest in maintaining one's culture and no interest in interacting with the dominant culture.</p>

Finally, Sue and Sue (1973) defined the individual in the middle as the Asian-American. Unlike the traditionalist and marginal man, who move towards existing models, the Asian-American formulates a new identity by integrating his experiences with his present conditions.

The process of acculturation involves making not only external adjustments to the new society but also having to resolve issues regarding personal identity. Many conflicts arise between traditional Asian and Western values. Asian values emphasize obedience and obligation to the family, interdependence, and reserved and formal interpersonal relationship with others. In contrast, Western society places importance on spontaneity, assertiveness, informality, and independence (Sue, 1973).

The task of resolving identity issues in a new society can be daunting for anyone. It has been shown that for some immigrants, the process of resolving identity issues has negative effects on their physical, mental, and emotional well-being (Constantine, Okazaki, & Utsey 2004; Donà & Berry, 1994; Duru & Poyrazli, 2007; Hovey, 2000; Hovey & Magaña, 2004; Hyun, 2001; Mehta, 1998).

Acculturation and Well-being

The degree of acculturation appears to be protective in terms of mental health. It has been reported that the level of acculturation can have an effect on acculturative stress, depression, and anxiety. Acculturating individuals who move to new communities are exposed to unique factors in their lives that contribute to acculturative stress which, in turn, affects their mental and psychological well-being. Researchers have attempted to identify these factors in their studies of acculturation.

Stress may begin to rise when their expectancies of living in a new community are unfulfilled. Prior to their arrival, immigrants who moved to the United States may have had expectancies of the type of life they would live. Bhattacharya and Schoppelrey (2004) interviewed 75 sets of South Asian parents (35-45 years old) whose children (11-17 years old) were failing in school. In their interview, they found that the parents' pre-immigration beliefs included having better opportunities available to them, being able to live a much more comfortable life, and that they would secure a job comparable to the one they had in their native land. Their post-immigration experience, however, was not comparable to their expectancies. The parents were working jobs well beneath their educational qualifications and work experiences in their native land. Furthermore, they reported having inadequate housing, economic difficulties, and difficulties in developing linguistic, social, and vocational skills, and difficulties helping their children with schoolwork because of the differences in the educational system. Immigrant parents believe that their family will not achieve financial prosperity and social prestige unless their children do well in school, thus great emphasis is placed on their children's success in school. Their children are also expected to take the role of the family spokesperson. Due to the language barrier, children must assist their parents with tasks such as the use of public transportation, interacting with social service agencies, and shopping. As a result, the parent and child both experience additional stress brought on by acculturation.

Compared to immigrants whose expectations are not met, those who were willing to live a migrant lifestyle have been shown to report fewer symptoms of depression. Hovey and Magaña (2002) surveyed 75 Mexican migrant farm workers and reported that

those who willingly moved to the United States and were willing to work as farm workers had significantly less depression. Furthermore, they reported increased levels of depression in individuals with low levels of family support and increased symptoms of depression and anxiety in individuals who had low social support and self-esteem. During their interview, participants reported that feelings of anxiety and depression developed because they were separated from their families and experienced prejudice in their everyday lives. Perceived prejudice has been shown to be a significant contributor to depressive symptoms in acculturating individuals (Rahman & Rollock, 2004). From their results, Hovey and Magaña (2002) concluded that symptoms of anxiety and depression were strongly associated with acculturative stress.

Researchers have identified several other variables that contribute to acculturative stress. Duru and Poyrazli (2007) found that in Turkish international students living in New York (18-41 years old) social connectedness, English competency, and being single were factors that decreased acculturative stress. In contrast, being married and having certain personality characteristics such as neuroticism and openness to experiences increased acculturative stress.

English competency was again shown to be negatively associated with depression. Constantine and colleagues (2004) found that international students who rated their English competency as being low were more depressed. In addition, they found that high acculturative stress scores were predictive of more depressive symptoms even after accounting for regional group membership, sex, and English language fluency.

Researchers (Bhattacharya & Schoppelrey, 2004; Constantine et al., 2004; Duru & Poyrazli, 2007; Hovey & Magaña, 2002; Joiner & Walker, 2002; Rahman & Rollock, 2004) have shown that acculturation can have a negative effect on one's well-being. For some, acculturation leads to acculturative stress, depression, and anxiety. Suicidal ideation can also be a concern for individuals with increased levels of acculturative stress (Hovey, 2000). Social and family support, English competency, and being tied to a religious group are variables that can help alleviate these symptoms (Constantine et al., 2004; Duru & Poyrazli, 2007; Hovey, 2000).

Other researchers have suggested that the type of acculturative strategy taken can either decrease or increase the amount of symptoms experienced. In a socio-cultural context, the type of acculturation mode utilized may be considered a type of coping strategy (Schmitz, 1992a) for immigrants. Similar to other coping strategies, some may be more effective than others.

The Most Adaptive Level of Acculturation

There have been discrepancies within the literature as to which would be the most adaptive level of acculturation. Some researchers suggest that acculturating to the dominant culture and maintaining one's original culture (integration) is the best method. Other researchers disagree and favor fully acculturating into the dominant society (assimilation).

Integration Strategy. Berry (1997) suggests that integration could be the most adaptive strategy. This is because integration incorporates both cultures which allow mutual accommodation, an involvement in two cultural communities, and flexibility in

one's personality. According to Berry, other strategies are less adaptive because they may either experience culture loss (assimilation), rejection by the dominant culture (separation), or both (marginalization). Unlike other strategies, integration could result in some acceptance from the dominant culture as well as preservation of one's own culture. Therefore, Berry (2005) proposed a curvilinear relationship between acculturative strategies and stress. In his proposition, integration was the least stressful, marginalization was the most stressful, and assimilation and separation fell in between. Schmitz's (1994) study lends support to Berry's proposal.

Schmitz (1994) studied acculturation in male migrants from the former East Germany (German Democratic Republic) and Central and South America who were living in the former West Germany (Federal Republic of Germany). He discovered that those who assimilated and segregated obtained the highest and most significant positive correlations between acculturation and psychosomatic complaints. Specifically, assimilation was correlated with proneness to infections, allergic reactions, and depressive reactions while segregation was correlated with cardiovascular complaints, irritability, and alcohol/drug addiction. Schmitz concluded that integration was more effective than assimilation and separation to enhance psychological and social adaptation.

Donà and Berry (1994) also found integration to be the most adaptive strategy in a study of Central American refugees in Toronto. They hypothesized that those individuals who used the integration strategy would have both individualistic and collective values and would also have the lowest levels of acculturative stress. Those taking the separation strategy would value collectivism and would have a higher level of acculturative stress

than those using the integration strategy. Individuals taking the assimilation strategy would value individualism and have higher acculturative stress than those using integration. None of the participants in their study fell into the marginalized category and only a small number of participants were in the assimilation category. In their study, those using the integration strategy reported lower levels of psychological stress than those using the assimilation and separation strategies. Further examination into their study revealed that extreme positive attitudes are related to greater somatic and psychological stress, especially for extreme positive attitudes towards their country of origin. Donà and Berry theorized that having extreme positive attitudes towards their country of origin might have led to 'home sickness,' which in turn increased levels of stress. Having extreme positive attitudes towards the Canadian society may also lead to increased stress because their high expectations were unmet or they may not have anticipated adjustment problems.

Similar results were found in a study that surveyed 54 Puerto Rican mothers living in a midwestern city in the United States (López & Contreras, 2005). Mothers who reported relatively high levels of involvement in both cultures experienced better psychological adjustments (i.e., lower levels of symptomatology in depression, anxiety, somatization, hostility, and interpersonal sensitivity). In addition, the ability or desire to communicate in both English and Spanish in different situations was related to optimal psychological adjustments. This study not only supports the theory that integration predicts better psychological functioning, but also that bilingualism may have a greater effect on psychological adjustment than biculturality.

Previous researchers supported the integration strategy as being the most adaptive strategy, however; the effectiveness of this strategy may vary between generations (Abouguendia & Noels, 2001). Abouguendia and Noels (2001) studied general and acculturation-specific hassles in first- and second- generation South Asian university students. General hassles refer to the hassles students encounter everyday, such as financial worries, future decisions, and school related problems. Acculturation-specific hassles refer to stressors that arise either from interaction with members of the dominant society such as racial discrimination and/or communication difficulties (out-group hassles), or stressors that come from contact with members of one's own culture such as the lack of fluency in their heritage language, feeling unaccepted by members of their culture, and/or family hassles (in-group hassles). General hassles were a strong predictor of psychological distress for both first- and second generation individuals. Abouguendia and Noels also found that second generation individuals experienced more in-group hassles because they loss contact with their original culture as a result from contact with the out-group. Individuals from the first generation experience slightly more out-group hassles than those in the second generation. In-group hassles resulted in increased symptoms of depression in both groups and low self-esteem in second generation individuals. Out-group hassles were unrelated to distress in first generation individuals. However, out-group hassles were linked to depression in second generation individuals. The authors believed that this may be due to the fact that these individuals have more contact with the majority group and therefore experience more prejudice than first generation individuals. In regard to acculturation strategies, Abouguendia and Noels

found that separation predicted low self-esteem and high depression in the first generation sample and high depression in the second generation sample. In addition, both experienced more out-groups hassles. Second generation individuals who preferred assimilation also experienced an increase in out-group hassles. This finding was also marginally evident in first generation individuals who also preferred assimilation. Contrary to other studies, Abouguendia and Noels found no evidence that feelings of integration and marginalization were related with psychological adjustment in either group. However, they did find mixed results concerning integration and hassles. For first generation individuals, greater integration was associated with fewer in-group and family hassles and there were less out-group hassles. This pattern was not evident for second generation individuals.

In their study, Abouguendia and Noels (2001) found a discrepancy between Berry's proposal and their results. First, they found no relationship between integration and psychological adjustment. Second, only first generation individuals who preferred integration experienced fewer hassles.

Assimilation Strategy. Not all researchers agree that integration is the most effective strategy. Other researchers argue that when migrants utilize this strategy they are much more involved with the dominant society and are therefore more accepted. As a result, there may be fewer symptoms of depression, anxiety, and acculturative stress.

Two-hundred twenty-six women who migrated to the U.S. from the former Soviet Union were surveyed in a study examining the effects of acculturation, social alienation, personal and family stress, and demographic characteristics on depressed mood (Miller,

Sorokin, Wang, Feetham, Choi, & Wilbur, 2006). Acculturation scores in this study, was measured by English language and American behavior, were indirectly related to lower scores on depressed mood. High acculturation levels indirectly promoted mental health by reducing social alienation, which subsequently lowers personal and family stress, both of which were positively related to symptoms of depression.

Results from another study support the idea that adapting the dominant culture's values could be more advantageous. Hyun (2001) found that individuals whose self-views most closely match that of the dominant group had less depressive symptoms. One hundred fifty-eight adult Korean immigrants from the Detroit area participated in the mail questionnaire study. The questionnaires included were psychological well-being measures, background measures, correlates of Korean immigrants' self-construals (traditional values, exposure to Western ideas, and English proficiency), and self-construal measures (interdependent self-construal and independent self-construal).

Hyun (2001) found that depressive symptoms were higher for younger Korean immigrants and immigrants who had a limited ability in English, experienced more financial difficulty in the U.S., and perceived more personal limits. Furthermore, the study found that Korean immigrants who had a highly independent self-construal (i.e., perceives identity to be separate from other selves and social context) had less depressive symptoms and greater life satisfaction than those with a less independent self-construal. When compared to independent individuals, those with an interdependent self-construal (i.e., values group solidarity over self-expression and individuality) had higher depressive symptoms. Immigrants who had a highly independent self-construal can be considered as

more westernized and those who follow more traditional Asian values would have a more interdependent self-construal (Sue & Sue, 1973). The depressive symptoms experienced by individuals with an interdependent self-construal are accounted for by difficulties with the English language and perceived personal limits.

Mehta (1998) found similar results in a study of Asian Indian immigrants who had greater affiliation with Americans, greater connection to U.S. culture, and fewer Indian ties had greater mental health scores regardless of demographic variables. In addition, those who felt greater acceptance by Americans also had better mental health. Not feeling accepted seemed to lead to poorer emotional status regardless of how well the immigrant may be doing.

Another study by Lee, Koeske, and Sales (2004) which examined Korean international students lends support to Hovey's (2000) findings that social support can act as a buffer between acculturative stress and mental health. However, Lee and colleagues discovered that this buffering effect was only present when there were high levels of acculturation to the American language and interpersonal association.

Gaudet, Clément, and Deuzeman's (2005) results contrasted to studies that support assimilation. They found a positive relationship between Canadian identity and depression in Lebanese immigrants. High Lebanese identity, on the other hand, promoted lower levels of in- and out- group hassles, lower levels of depression, and higher levels of self-esteem. They also found that out-group hassles increased levels of depression and lowers self-esteem. This suggest that Lebanese immigrants that identify

themselves as Canadian experiences more out-groups hassles which results in higher levels of depression.

There have also been studies that suggest integration and assimilation are both advantageous to an acculturating individual. Schmitz (1992b) suggests that since both strategies would lead to an arrangement with the dominant society and clear up the type of relationship one would have with their own ethnic group then both are effective strategies.

Overview and Hypotheses

The multi-dimensional model proposed by Berry (1997) described the use of assimilation, separation, marginalization, and integration strategies by those who have immigrated to new countries. However, there are inconsistencies in the literature as to the role that the assimilation and integration strategies may play in reducing acculturative stress and protecting or enhancing emotional and mental health and facilitating psychosocial adjustment. The objective of this study was to reconcile inconsistencies in the literature regarding the relative contributions of assimilation and integration strategies in protecting Asian college students from acculturative stress, mood disturbance, and anxiety. This study proposes to test two alternate models of acculturation, a curvilinear model and linear model, to examine the relationship between acculturative strategies and mental health.

The curvilinear model most closely follows Berry's (1994, 1997) assumptions of acculturation. It assumes that the integration strategy is the most adaptive strategy. Therefore, individuals taking this strategy would show the least symptoms of depression,

anxiety, and acculturative stress. Compared to integration, individuals using the assimilation or separation strategies may show more symptoms of depression, anxiety, and acculturative stress. Individuals who score on either the low end (separation) of the acculturation scale or the high end (assimilation) would obtain high scores on the depression, anxiety, and acculturative stress scales. Individuals who score mid-range on the acculturation scale (integration) would obtain low scores on the depression, anxiety, and acculturative stress scales. Figure 1 illustrates the relationship we expect to find if the curvilinear model were true.

In contrast to the curvilinear model, the linear model assumes that as acculturation levels move from low (separation) to high (assimilation) scores on the depression, anxiety, and acculturative stress scales will decrease. Individuals who score at the low end of the acculturation scale would obtain the highest scores on the depression, anxiety, and acculturative stress scales. In contrast, individuals scoring on the high end of the acculturation scale would obtain the lowest scores on the depression, anxiety, and acculturative stress scales. Individuals who score mid-range in the acculturation scale would also score mid-range on the scales measuring depression, anxiety, and acculturative stress scales. Figure 2 depicts the type of relationship we expect to find if the linear model were true.

Figure 1

Curvilinear Model of Acculturative Strategy and Mental Health

Figure 2

Linear Model of Acculturative Strategy and Mental Health

METHOD

Participants

The U.S. Census Bureau's (2003) definition of "Asian" and "Pacific Islander" was utilized for this study. In a report published by the U.S. Census Bureau the term "Asian" referred to those having origins in any of the people of the Far East, Southeast Asia, or the Indian subcontinent including Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine islands, Thailand, and Vietnam. Students who had origins from both Asia and outside of Asia were excluded. The term "Pacific Islander" referred to those having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

A convenience sample was collected from the Introductory Psychology subject pool at San Jose State University (SJSU). Data were collected on two separate open research days at SJSU. A total of 107 Asian and Pacific Islander students participated in this study. Students who participated received credit hours towards their psychology class. Of the 107 participants, 36.44% were male ($n = 39$) and 63.55% were female ($n = 68$). Their ages ranged from 17 to 38 years-old ($M = 19.00$). The sample was comprised of Filipinos (25.23%), Chinese (25.23%), Vietnamese (16.82%), individuals from multiple Asian backgrounds (12.15%), Japanese (7.48%), East Indian (3.74%), Other Asian (2.80%), Korean (1.87%), Cambodian (.93%), Pakistani (.93%), Fijian (.93%), Polynesian (.93%), and Filipino/Chamorro (.93). Table 2 further describes participants' demographic information. This work was approved by the SJSU Institutional Review Board. (See Appendix A.)

Table 2

Descriptive Statistics of Demographic Variables

Demographic Variable	<i>n</i>	<i>M</i>	%
Gender	107	-	-
Male	39		36.44
Female	68		63.55
GPA	76	3.13	-
Year in College	107	1.64	-
1 st	62		57.94
2 nd	29		27.10
3 rd	11		10.28
4 th	3		2.80
5 th	1		.93
6 th	1		.93
Major	107	-	-
Computer science	11		10.28
Social science	9		8.41
Biology	4		3.74
Business	19		17.76
Engineering	6		5.61
Health science	34		31.78
Undeclared	12		11.21
Chemistry	2		1.87
Arts/Humanities	3		2.80
English	2		1.87
Other	4		3.74
More than 1 major	1		.93
Place of Birth	107	-	-
USA	87		81.30
Asia	19		17.76
Pacific Island	1		.93
Living Arrangements	106	-	-
Alone	6		5.61
With parent(s)	67		62.62
With spouse/partner	2		1.87
With friends/roommates	31		28.97

Table 2 (*Continued*)

Demographic Variable	<i>n</i>	<i>M</i>	%
Ethnic Background	107		
Asian	104		97.20
Pacific Islander	2		1.87
Asian/Pacific Islander	1		.93
Specific Asian Background	104	-	-
Cambodian	1		.93
Pakistani	1		.93
Chinese	27		25.23
Filipino	27		25.23
East Indian	4		3.74
Japanese	8		7.48
Vietnamese	18		16.82
Korean	2		1.87
Other Asian	3		2.80
Multiple Asian Background	13		12.15
Specific Pacific Islander Background	2		
Fijian	1		.93
Polynesian	1		.93
Specific Asian/Pacific Islander	1		
Filipino/Chamorro	1		.93
Marital Status	99		
Single	96		89.72
Married	2		1.87
Separated	1		.93
Primary Language	105	-	
English	86		80.37
Japanese	2		1.87
Chinese	8		7.48
Vietnamese	6		5.61
Tagalog	1		.93
Punjabi	1		.93
Other	1		.93

Table 2 (*Continued*)

Demographic Variable	<i>n</i>	<i>M</i>	%
English Proficiency	107	3.59	-
Not proficient	0		0.00
Somewhat proficient	3		2.80
Proficient	37		34.58
Very proficient	67		62.62
Received Professional Help		-	
Depression	2		1.87
Anxiety	1		.93
Religion	106		
Mormon	2		1.87
Catholic	28		26.17
Protestant	4		3.74
Buddhist	26		24.30
Christian	11		10.28
No religion	24		22.43
Other	11		10.28
Mother's Occupation	94		
Stay at home	9		8.41
Healthcare	17		15.89
Business	12		11.21
Engineering	7		6.54
Education	5		4.67
Computer	5		4.67
Other	39		36.45
Place of Mother's Birth	107		
US	11		10.28
Asia	94		87.85
Pacific Island	2		1.87
Mother's Highest Education Completed	101		
Some high school	11		10.28
High school	17		15.89
Some college	21		19.63
Jr. College	9		8.41
College	35		32.71
Graduate school	8		7.48

Table 2 (*Continued*)

Demographic Variable	<i>n</i>	<i>M</i>	%
Father's Occupation	89		
Stay at home	2		1.87
Healthcare	4		3.74
Business	10		9.35
Engineering	19		17.76
Education	1		.93
Computer	6		5.61
Other	47		43.93
Place of Father's Birth	104		
US	12		11.21
Asia	89		83.18
Pacific Island	3		2.80
Father's Highest Education Completed	102		
Some high school	10		9.35
High school	17		15.89
Some college	22		20.56
Jr. College	9		8.41
College	32		29.91
Graduate school	12		11.21
Units Taken this Semester	107	13.27	-
Typical units taken per semester	91	13.38	-
Employment	107		
No	42		39.25
Part-time (<40 hrs.)	65		60.75
Hours worked per week	106	7.21	
Generation*	107		
1 st generation	20		18.69
2 nd generation	77		71.96
3 rd generation	4		3.74
4 th generation	2		1.87
5 th generation	2		1.87
Do not know	2		1.87

* information based on participants' response on question 12 on the SL-ASIA

Measures

Demographics. A demographic questionnaire provided information regarding participants' background (e.g., gender, place of birth, living arrangements, ethnicity, marital status, religion, primary language, and employment), participants' educational background (e.g., GPA, major, and number of units), their parents' background (e.g., level of education, place of birth, and occupation), participants' English proficiency, residency (e.g., length of stay in US), and mental health (previous diagnosis of depression or anxiety and medication used). (See Appendix B.)

Acculturation. Acculturation was measured using the Suinn-Lew Asian Self-Identity Acculturation scale (SL-ASIA; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987). Suinn (1998, personal communication, April 5, 2007) defines acculturation as a process that can occur when two or more cultures interact together. The interaction can result in various outcomes; individuals can adopt the host culture's values and behavior in replacement of their parent culture's values/behavior (i.e., Western Identified), or acquire the host culture's values/behaviors while retaining their parent culture values/ behaviors (i.e., Bicultural), or individuals can retain their ethnic heritage and refuse attempts to be integrated with the host culture's values/behaviors (i.e., Asian Identified) (Suinn, personal communication, April 5, 2007; Suinn, Knoo, and Ahuna, 1995). Suinn's (Suinn, Knoo, and Ahuna, 1995) view of the different possible influences acculturation can have on an individual are similar to Berry's (1987, 1994, 1997, 2003) model of acculturation. In order to avoid confusion, this study continued to use the labels Berry gave each acculturation strategy. Therefore, the terms "Western identified," "bicultural," and

“Asian identified” was substituted with “assimilated/ assimilation,” “integrated/ integration,” and “separated/ separation,” respectively.

Suinn and colleagues (1987) modeled the SL-ASIA after the Acculturation Rating Scale for Mexican-Americans (ARSMA; Cuellar, Harris, & Jasso, 1980), the ARSMA is a well established measure of acculturation for Mexican-Americans. The SL-ASIA consists of multiple choice items that cover language, identity, friendship, behaviors, generational/geographic history, and attitudes. The total acculturation score is obtained by summing across all the answers for the 21 items, then dividing the total by 21 (Suinn et al., 1987). Scores on the multiple choice scale could range from 1 (low acculturation) to 5 (high acculturation). Originally, the inventory consisted of 21 items, five more optional items (questions 22-26) were added later. Only the 21 original items were used in this study.

In their 1987 study, Suinn and colleagues reported acceptable reliability and validity results from the SL-ASIA. Reliability was calculated to have an alpha coefficient of .88 indicating stability. Validity was determined when the scale was able to show a significant relationship between generational differences and acculturation scores ($p < .0001$). Mean value acculturation scores increased for each generation: first generation, 2.96; second generation, 3.57; third generation, 3.78; fourth, 3.78; fifth, 3.85 (Suinn et al., 1987). Suinn and colleagues found further evidence of the scale's validity when high scores on the SL-ASIA were reflective of greater length of residence in the United States.

Suinn and colleagues (1995) were able to demonstrate concurrent and factorial validity in their study comparing Singapore Asians in Singapore to Asian-Americans in Colorado. Significant differences were found between SL-ASIA scores from Singapore participants and Asian-American participants. Singapore participants scored lower on the SL-ASIA indicating that they are more “Asian-identified” while Asian-American participants scored higher indicating that they are more “Western-identified” ($p = .0001$). In the same study, Suinn and colleagues found that Cronbach’s alpha of the SL-ASIA for Singapore Asians (.79) was lower than those previously obtained from Asian-American samples (.91 and .88). Nevertheless, with a reliability of .79 the SL-ASIA is still provides reasonably stable data.

Additional evidence of the scale’s good psychometric properties was reported in another study by Suinn, Ahuna, and Khoo’s (1992). The aim of their study was to correct two flaws found in their initial report (Suinn et al., 1987) by using a larger sample and criterion information from an independent source. Asian-American students from Colorado were asked to complete the SL-ASIA and demographic questionnaire. Suinn and colleagues found high internal consistency (Cronbach’s alpha = .91), significant correlations between SL-ASIA scores and demographic variables ($p < .001$), and identified three of the ARSMA’s four factors to be present in the SL-ASIA.

Some drawbacks to this inventory are that it does not separate each of the Asian-American groups, it may fail to identify different types of situational behaviors, and it does not measure all possible dimensions of acculturation and the dimensions that are measured are not equally assessed (Leong & Chou, 1998; Suinn et al., 1987).

Acculturative Stress. Nwadiora and McAdoo (1996) define acculturative stress as psychocultural stress marked by a reduction in physical and mental health status of individuals or groups undergoing acculturation due to cultural differences. Acculturative stress has been shown to be a distinctive construct that goes beyond general life stress and contributes uniquely to symptoms of depression and anxiety (Joiner and Walker, 2002). Acculturation introduces potential sources of social, attitudinal, familial, and environmental conflicts for immigrants. These conflicts are brought about from cultural difference and may result in stress (Padilla, Wagatsuma, & Ludholm, 1985).

Level of acculturative stress was assessed by the short version of the Social, Attitudinal, Familial, and Environmental scale (S.A.F.E.; Mena, Padilla, & Maldonado, 1987). The scale consists of 24 items, 17 items measure acculturative stress in social, attitudinal, familial, and environmental contexts and 7 items pertained to perceived discrimination or majority group stereotypes toward immigrant populations. Participants rate each item from 1-not stressful to 5-extremely stressful and items that are “not applicable” were skipped and scored “0.” Possible scores can range from 0 to 120 with higher scores indicating greater stress.

Mena and colleagues (1987) found the scale to be a reliable measure of acculturative stress in a multi-cultural sample of college students, which included Asian Americans, with different generational backgrounds (Alpha coefficient = .89). Similar results were found in other studies that consisted of Hispanic, Caucasians, and African Americans participants ($\alpha = .89$, Joiner & Walker, 2002; $\alpha = .87$, Perez, Voelz, Pettit, & Joiner, 2002; $\alpha = .89$, Walker, Wingate, Obasi, & Joiner, 2008).

Joiner and Walker (2002) were able to demonstrate the construct and discriminant validity of S.A.F.E. scale. In their study involving African Americans, they found that acculturative stress scores were significantly correlated with depressive and anxious symptoms even after they controlled for general life stress ($p < .05$). This indicates that acculturative stress has a unique contribution beyond general life stress. In another study, the scale was used to assess the adjustment need of Hispanic college students (Fuertes & Westbrook 1996). From the results, Fuertes and Westbrook (1996) found that the S.A.F.E. scale was a reliable measure (Cronbach's $\alpha = .89$) and had moderate-to-low correlations with their open ended questions that related to stress that their participants experienced in the United States, which demonstrated some convergent validity.

Depression. Depression was assessed using the Beck Depression Inventory-II (BDI- II; Beck, Steer, & Brown, 1996), a more recent version of the original inventory. Beck (1972) states that depression cannot be defined as an affective disorder, instead he recognizes that there are several components to depression other than mood deviation. According to Beck, the following attributes may be used to define depression:

1. A specific alteration in mood: sadness, loneliness, apathy.
2. A negative self-concept associated with self-reproaches and self-blame.
3. Regressive and self-punitive wishes: desires to escape, hide, or die.
4. Vegetative changes: anorexia, insomnia, loss of libido.
5. Change in activity level: retardation or agitation.

The inventory was created with this concept in mind in order to approximate clinical judgments of the intensity of an individual's depressive symptoms. The BDI-II is a 21-item multiple choice self-report measure designed to measure the presence and severity of depressive symptoms (Dozois & Dobson, 2002) present over the past two weeks. The 21 items assess mood, pessimism, sense of failure, self dissatisfaction, guilt, punishment, self-dislike, self accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigue, loss of appetite, weight loss, somatic preoccupation, and loss of libido (Brantley, Dutton, & Wood, 2004). Individuals rate the intensity of each symptom on a 4-point scale from 0 to 3 in terms of the intensity of the individual's symptom. Scores are added up to give a total ranging from 0 to 63; higher scores represent more symptoms of depression (Brantley et al., 2004). The BDI-II covers all of the DSM-IV (American Psychiatric Association [APA], 2000) symptom criteria. However, similar to other depression screening measures it does not diagnose depression, but does provide an indication of the severity of symptoms within a given period of time (Beck, Steer, Ball, & Ranieri, 1996; Sharp & Lipsky, 2002).

The BDI-II has strong psychometric properties. Beck, Steer, Ball and colleagues (1996) reported high test-retest reliability of .93 over a 1-week period for outpatients who completed the inventory before their first and second cognitive therapy sessions. High internal consistency was also found among college students with alpha coefficients ranging from .89 to .93 (Brantley et al., 2004; Dozois & Dobson, 2002). Convergent validity of the BDI-II was supported when it significantly and positively correlated with

the Hamilton Rating Scale for Depression (.71) and the Depression subscale of the Symptom Check List 90- Revised (.89) in outpatients (Beck, Steer, Ball et al., 1996). As previously discussed, the BDI-II was created to match the diagnostic criteria of the DSM-IV (APA, 2000). The inventory does an adequate job of covering symptoms of a major depressive episode showing content validity. However, the BDI-II does not endorse all symptoms and other possible conditions that could be responsible for elevation in BDI scores (Brantley et al., 2004) and therefore should not be used to diagnose depression.

Anxiety. Anxiety was assessed using the Spielberger's State-Trait Anxiety Inventory (STAI; Spielberger, 1983). This inventory provides an index for both state and trait anxiety. State anxiety (S- anxiety) refers to a person's subjective feelings of tension, apprehension, nervousness, worry, and activation (arousal) of the autonomic nervous system, which can vary in intensity and fluctuate over time as a function of perceived threat (Spielberger, 1999). Trait anxiety (T- anxiety), on the other hand, refers to the relatively stable individual differences in anxiety proneness (Spielberger, 1999).

The STAI is a self-report measure comprised of two separate 20-item scales, one measuring state anxiety and the other measuring trait anxiety. The S-anxiety scale assesses how the person is feeling "at this moment" on a 4-point Likert scale (1= not at all, 2=somewhat, 3=moderately so, and 4=very much so). Example of the items included are, "I feel at ease" and "I feel upset." The T-anxiety scale assesses how a person "generally" feels also on the same 4-point Likert scale. An example of the items included are, "I am a steady person" and "I lack self confidence." This inventory was developed

to be used with high school and college students and can be completed by a person with a fourth or fifth grade reading ability (Spielberger, 1983).

The STAI has relatively good psychometric properties. The test-retest reliability for the T-anxiety scale ranged from .77 to .86 for college students (Spielberger, 1983). The test-retest reliability for the S-anxiety scale, on the other hand, was substantially lower and ranged from .16 to .62 (Spielberger, 1983). However, a low test-retest coefficient on the S-anxiety scale was expected since the scores are expected to fluctuate due to situational factors that the individual taking the inventory may be experiencing at the moment.

The median alpha coefficients were high for the S-anxiety scale and T-anxiety scale, .93 and .90 respectively, in samples of students, working adults, and military recruits indicating good internal consistency (Spielberger, 1983).

Good concurrent validity was demonstrated between the T-anxiety scale and other measures of trait anxiety. The T-anxiety scale, IPAT Anxiety Scale (Cattell & Scheier, 1963), and the Taylor Manifest Anxiety Scale (TMAS; Taylor, 1953) had relatively high correlations ranging from .73 to .85 (Spielberger, 1983).

Procedures

Participants were recruited through the SJSU subject pool. Verbal instructions describing inclusion and exclusion variables were given at the beginning of the session. Ineligible individuals were asked to leave the room. Participants were also informed that responses would remain anonymous and that participation in the study was voluntary. A consent form (see Appendix C) was administered to all eligible students.

Following consent, students were given the self-administered questionnaire packet in a group session. The packet contained the demographic questionnaire (see Appendix C), SL-ASIA, S.A.F.E. scale, BDI, and STAI in that order. Participants were given 60 to 90 minutes to complete all questionnaires.

Due to the nature of some of these instruments, the last page of every questionnaire packet contained contact information to SJSU's counseling and health services that can be detached and taken with the participant (see Appendix D). Once all questionnaires were completed, participants were debriefed on the purpose of the study and thanked for their participation.

RESULTS

This study intended to investigate acculturation in Asian and Pacific Islander populations separately. However, due to the small number of Pacific Islander participants ($n = 3$) a separate analysis could not be conducted. Furthermore, Pacific Islander participants were given a modified version of the acculturation scale and therefore their responses could not be combined with responses from Asian participants. Four students who completed the survey did not meet age requirements. As a result, out of 107 surveys collected, only 100 were used in this study.

Descriptive Statistics

Upon of the descriptive statistics examination it is important to note that the students scored an average of 3.12 out of 5 on the SL-ASIA. According to Suinn (1992), scores that average around 3 indicate a preference for the integration method. Scores that average closer to 1 indicates a preference for the separation method and those that average close to 5 prefer the assimilation method. Participants' average score on the BDI-II ($M = 13.40$) fell slightly above the minimal range (0 to 13). This indicates that overall participants experienced only a few symptoms of depression. Scores on the S.A.F.E. scale range from 0 to 120, higher scores are indicative of experiencing more symptoms of acculturative stress. Participants in this study had an average score of 44.90 placing them on the lower end of the scale. The descriptive statistics (means and standard deviation) for all measured variables are displayed on Table 3.

Participants' average scores on the S-anxiety scale in this study ($M = 38.39$) were comparable to the mean norms for male ($M = 36.47$) and female ($M = 38.76$) college

students. Participants' average scores on the T-anxiety scale ($M = 45.54$) was slightly higher than the mean norms for male ($M = 38.30$) and female ($M = 40.40$) college students. This implies that on average, participants in this study are generally more anxious than other college students.

Correlations

A summary of the zero-order correlation coefficients between variables is also shown on Table 3. Acculturation was found to have a significant negative correlation with acculturative stress ($r = -.20, p < .05$). The negative relationship suggests that the more acculturated the individual is the less stress he/she would experience. In contrast, acculturative stress was found to be significantly correlated ($p < .01$) to depression ($r = .44$), state anxiety ($r = .36$), and trait anxiety ($r = .50$). An increase in acculturation may indirectly lead to fewer symptoms of depression and anxiety by reducing acculturative stress. Figure 3 illustrates the possible indirect relationship.

Depression was also found to be significantly correlated ($p < .01$) to state anxiety ($r = .67$) and trait anxiety ($r = .72$). Finally, state anxiety was also significantly correlated ($p < .01$) to trait anxiety ($r = .62$).

Test of Linear Model

A bi-variate linear regression analysis was conducted to test whether a linear relationship existed between acculturation level and reported symptoms of acculturative stress, depression, state anxiety, and trait anxiety existed. A summary of the linear regression analysis is displayed on Table 4.

Table 3

Means, Standard Deviation, and Correlation of Measured Variables (N = 100)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. SL-ASIA	3.12	.45	--				
2. BDI-II	13.40	9.46	-.04	--			
3. S.A.F.E.	44.90	18.81	-.20*	.44**	--		
4. STAI- State anxiety	38.39	11.43	-.10	.67**	.36**	--	
5. STAI- Trait anxiety	45.54	11.52	-.02	.72**	.50**	.62**	--

* $p < .05$ ** $p < .01$

Figure 3

Indirect relationship between acculturation and symptoms of depression, state anxiety, and trait anxiety

A significant linear relationship was found between acculturation level and acculturative stress: ($F(1, 98) = 4.12, p < .05, r^2 = .04$). Figure 4 illustrates the linear relationship between level of acculturation and acculturative stress. High scores on the SL-ASIA correspond to low scores on the S.A.F.E. scale. No other variables were significantly related to acculturation level: depression ($F(1, 98) = .19, p > .05$), state anxiety ($F(1, 98) = .95, p > .05$), and trait anxiety ($F(1, 98) = .04, p > .05$).

Test of Curvilinear Model

The relationship between acculturation and the well-being variables (depression, acculturative stress, state anxiety, and trait anxiety) was tested against a quadratic model in order to determine if a curvilinear model exists.

Upon examination of the data no significant non-linear relationships were found between acculturation and the well being variables: depression ($F(2, 97) = .13, p > .05, r^2 = .00$), acculturative stress ($F(2, 97) = 2.06, p > .05, r^2 = .04$), state anxiety ($F(2, 97) = .49, p > .05$), and trait anxiety ($F(2, 97) = .25, p > .05, r^2 = .00$).

A model summary of the goodness of fit analysis is displayed on Table 5.

Post Hoc Analysis

An independent samples t-test was conducted post hoc to further evaluate possible linear or curvilinear trends between high and low levels of acculturation and S.A.F.E., BDI-II, and STAI scores. Individuals who scored in the lower 10% on the SL-ASIA were assigned to the low acculturation group ($n = 10$) and individuals who scored in the top 10% were assigned to the high acculturation group ($n = 10$). A comparison of the two extreme means could give insight on possible trends that may exist.

Table 4

Summary of Linear Regression Analysis of the Interaction between Acculturation and Well-being Variables (N = 100)

Variables	R	R^2	R^2_{adj}	β
1. BDI-II	.04	.00	-.01	-.04
2. S.A.F.E.	.20	.04	.03	-.20*
3. STAI- State anxiety	.10	.01	-.00	-.10
4. STAI- Trait anxiety	.02	.00	-.01	.20

* $p < .05$

Figure 4

Linear Relationship Between Acculturation and Acculturative Stress

If the means between the two extremes were significantly different for each dependent variable then it may be possible that a linear relationship existed. On the other hand, if the means were not significantly different then a possible curvilinear trend may be present.

The means were not significantly different ($p > .05$); however, the low acculturation group on average reported more symptoms of stress ($t(19) = .98, p > .05, M = 48.45$), state anxiety ($t(19) = .53, p > .05, M = 38.63$), and trait anxiety ($t(19) = .12, p > .05, M = 46.18$) than the high acculturation group ($M = 39.80, 36.10$, and 45.50 respectively). Although the mean scores on the BDI-II were also not significantly different, the means were higher for the high acculturation group ($t(19) = -.31, p > .05, M = 12.40$) than the low acculturation group ($M = 11.18$).

A linear regression analysis was performed post hoc in order to determine whether there was a significant linear relationship that exists between acculturative stress and any of the other well-being variables (depression, state anxiety, and trait anxiety) in the current study.

Acculturative stress had a significant linear relationship with depression ($F(1, 98) = 24.08, p < .01, r^2 = .20$), state anxiety ($F(1, 98) = 14.32, p < .01, r^2 = .13$), and trait anxiety ($F(1, 98) = 33.29, p < .01, r^2 = .26$).

Table 5

Summary of Curvilinear Analysis of the Interaction between Acculturation and Well-being Variables (N = 100)

Variables	R	R ²	R ² _{adj}	β
1. BDI-II	.05	.00	-.02	-.29
2. S.A.F.E.	.20	.04	.02	-.20
3. STAI- State anxiety	.10	.01	-.01	-.23
4. STAI- Trait anxiety	.07	.00	-.02	.65

DISCUSSION

The present research examined two models, linear and curvilinear, that may represent the relationship between acculturation and well-being variables (acculturative stress, depression, state-and trait anxiety). There have been discrepancies within the literature as to the level of acculturation that could reduce acculturative stress and protect or enhance emotional and mental health.

The curvilinear model proposed by Berry (1997, 2006) is the most accepted model that describes the relationship between acculturation and mental health. According to this model, individuals who identify with both their own culture and the dominant society's culture would have better mental health than individuals who choose to identify with one or the other. Therefore, those who integrate could have better mental health than those who separate or assimilate. In contrast, proponents of a linear model found those who assimilate into the dominant culture experienced better mental health (Hyun, 2001; Mehta, 1998; Miller, et al., 2006). In this model the more distant an individual is from the dominant society, the more likely the individual would experience symptoms of poor mental health.

Although in the present study, relationships were not found between acculturation and depression or acculturation and state and trait anxiety, a significant and linear relationship was found between acculturation levels and acculturative stress. Moreover, the curvilinear model was directly tested and was not significant. It may be concluded that individuals who are highly acculturated experience less acculturative stress. This partly disputes Berry's (1997) proposed curvilinear model.

In addition, post-hoc analysis revealed a significant linear relationship between acculturative stress and other well-being variables (depression, state anxiety, and trait anxiety). Higher levels of acculturative stress were associated with more reported symptoms of depression, state anxiety, and trait anxiety. Consistent with the results from Miller and colleagues (2006) and Oh and colleagues (2002), the present study suggests that higher acculturation levels indirectly promote better mental health by reducing the amount of acculturative stress. A reduction in acculturative stress resulted in fewer reported symptoms of depression, state anxiety, and trait anxiety. According to Hovey (2000), increases in acculturative stress resulted in an increase in depressive symptoms and suicidal ideation. Therefore, individuals who choose to assimilate may report fewer symptoms of depression, state, and trait anxiety compared to those who integrate or separate. However, for a more conclusive analysis, future studies should statistically examine whether acculturative stress does, in fact, function as a moderator between acculturation and symptoms of depression and anxiety.

Unlike integration, individuals who assimilate may experience less ambiguity in developing their identity. These individuals may not have to make attempts to accommodate both their own cultural values and the values of the dominant society. They may not also have to constantly switch roles in different situations. This could reduce the internal conflict experienced, which may also reduce the stress experienced.

Although the separation approach also allows for less ambiguity, the strategy does not allow the individual to interact with the dominant society. The lack of interaction with Western individuals may result in conflicts, misunderstandings, or more perceived

prejudice during instances when communication is needed, such as dealing with educational, immigration, or employment needs. Furthermore, the inability to communicate well with the dominant culture may result in a failure to respond to opportunities available to them. Graves (1967) suggested that failing to find opportunities intensifies feelings of depression. Thus, an assimilated individual may be more aware of the opportunities available to him/her in the dominant society and therefore experience fewer symptoms of depression compared to an individual who integrates. In addition, compared to individuals using either separation or integration strategies, assimilated individuals may feel more accepted by the dominant society and experience less prejudice.

Although assimilation seems advantageous, it should be noted that complete assimilation into the dominant society may also result in poor mental health. This may come as a result of separating one's self from his/her cultural history or losing his/her individuality. Acculturation occurs on a continuum, it is suggested that a movement towards assimilation, not necessarily total assimilation, is advantageous.

Finally, this study utilized inventories (BDI-II and STAI) that are frequently used in clinical practice but are seldom used in acculturation research. Using standard clinical measures therapist may be able to compare scores from acculturation individuals to those who are not undergoing acculturation.

Limitations and Future Research

This study is not without limitations. One limitation is the restrictive range of the sample. A majority of the sample scored in the midrange of the SL-ASIA, more

individuals who would score in the extreme ends of the scale are needed to allow for a more conclusive analysis. This may have occurred because a majority of the participants (71.96%) were second-generation individuals. In this study, second generation individuals are those who were born in the U.S. and whose parents were born in Asia or the Pacific Islands. These individuals are more likely to fall into the integration category because they may have parents who promote tradition while they grow up in a Western society. This may be prevented in the future by prescreening each participant. Individuals who could be good candidates for the separation group would be individuals who have recently arrived to the United States or individuals living in another country. Individuals who could be good candidates for the assimilation group would be those who are 3rd (both parents born in the US and individual born in the US) generation American or later.

It should also be noted that some participants in this study skipped more than five items on the S.A.F.E. scale indicating that more than five items may have not been applicable to the individual. Although this scale has been used on Asian samples (Mena et al., 1987; Padilla et al., 1985), the large number of non-applicable items listed may bring into question the scale's validity for this study.

In addition, the acculturation scale (SL-ASIA) used in this study did not measure marginalization and thus, disregarded an entire category of individuals. Marginalization has often been overlooked in acculturation studies because it is more difficult to find marginalized individuals. However, future research should attempt to study the effects of

marginalization on symptoms of acculturative stress, anxiety, and depression in acculturating individuals.

Another limitation of this study is common in acculturation research. In order to have a larger sample size, the present study did not examine one specific Asian population; instead individuals from different Asian backgrounds were combined into one group. By doing so, this study disregarded the differences that may have existed between each Asian group, therefore; results may not be generalized to specific Asian groups. Berry (1997) had suggested that different ethnicities prefer different techniques of acculturation. It may be possible that these differences in preference exist within the Asian community. Therefore, although the present study found that assimilating into the dominant society was the most adaptive technique in reducing acculturative stress future studies that compare individuals of different Asian origins (e.g., Japanese versus Chinese) may yield different results. This limitation also brings forth generalization issues. Results of this study may not be generalized to studies that examine non- Asian individuals and studies that examine only one Asian group.

Finally, future studies should consider a longitudinal design that prescreens participants' mental health prior to and after exposure to a new society. This type of design could address causal ordering and the directionality of acculturation (Hovey, 2002; Greenland & Brown, 2005). Lin and Yi (1997) suggested a program that would aide students during different stages of their stages: pre-arrival adjustment stage, initial adjustment stage, on-going adjustment stage, and return-home adjustment stage. Future research may want to consider measuring levels of acculturation, acculturative stress,

state- and trait anxiety, and depression during these time periods to provide more conclusive results.

Practical Implications

Despite its limitations, this study was able to demonstrate that individuals who have trouble acculturating into a new society experience higher levels of acculturative stress. As a result, they report more symptoms of depression, state anxiety, and trait anxiety. Understanding the effect of acculturation on well-being could be useful clinically in diagnosing problems, planning intervention, designing programs, and targeting problem areas (Ownbey & Horridge, 1998). By identifying problem areas the clinician or social workers can develop intervention programs that address social, cultural, or identity issues.

Acculturation issues can affect therapist-client match. Less acculturated clients who are experiencing acculturative stress may prefer a therapist from the same country of origin. These clients may feel that these therapists would not be prejudice and would understand his/her experiences better. Therapist should be aware that clients who are struggling with adjustments might have a preference for the therapist they see based on ethnicity.

Therapists may also want to assess an acculturating client's level of acculturative stress because high levels of acculturative stress may be related to increased symptoms of depression and anxiety. The source of the client's distress may come from unresolved acculturating issues. If so, then the therapist may want their treatment plan to include strategies to decrease acculturative stress. These strategies may include creating a social

support system with individuals from their culture and the dominant culture, developing social and language skills, and addressing issues concerning prejudice and discrimination. Assisting acculturating clients with adjustment issues may help them develop positive expectations for the future, which according to Hovey (2002), could lower levels of depression and suicidal ideation in these clients.

Overall, this study brings attention that acculturation issues may be at the root or contribute to symptoms of depression, anxiety, or acculturative stress. Addressing these issues may effectively lead to improved well being for individuals undergoing acculturation.

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Appendix A

San José State
UNIVERSITY

**Office of the Provost
Associate Vice President
Graduate Studies & Research**

One Washington Square
San José, CA 95192-0025
Voice: 408-924-2427
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E-mail: gradstudies@sjsu.edu
http://www.sjsu.edu

To: Teresa Jamie Soriano

From: Pamela Stacks, Ph.D.
Associate Vice President
Graduate Studies and Research

Date: July 10, 2007

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

“The Affects of Acculturative Strategies on Asians and Pacific Islanders”

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to all data that may be collected from the subjects. The approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Pamela Stacks, Ph.D. immediately. Injury includes but is not limited to bodily harm, psychological trauma, and release of potentially damaging personal information. This approval for the human subject's portion of your project is in effect for one year, and data collection beyond July 10, 2008 requires an extension request.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services that the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at (408) 924-2480.

cc. Lynda Heiden, 0120

The California State University:
Chancellor's Office
Bakersfield, Channel Islands, Chico,
Dominguez Hills, East Bay, Fresno,
Fullerton, Humboldt, Long Beach,
Los Angeles, Maritime Academy,
Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Appendix B

Participant Demographic Questionnaire

1. Gender: M ____ F ____ 2. Age: ____ 3. GPA: ____

4. Year in College: ____ 5. What is your major? ____

____ 1st
 ____ 2nd
 ____ 3rd
 ____ 4th
 ____ 5th
 ____ 6th

6. Were you born in the United States? YES NO

If NO, which country were you born in? ____

How long have you been in the U.S.? ____

At what age did you enter the U.S.? ____

If YES, have you ever lived outside the U.S. for over two years? YES NO

Where did you live? ____

How long was your stay there? ____

5. What is your ethnic background? (Check ALL that apply)

Asian

Cambodian ____

Pakistani ____

Chinese ____

Filipino ____

East Indian ____

Other (Specify) ____

Japanese ____

Vietnamese ____

Korean ____

Thai ____

Malaysian ____

Pacific Islander

Native Hawaiian ____

Samoan ____

Fijian ____

Palauan ____

Other (Specify) ____

Chamorro ____

Polynesian ____

Tahitian ____

6. Living Arrangements (check only one)

____ Alone

____ with parent(s)

____ with spouse/partner

____ with friends/roommates

7. Marital Status

____ Single

____ Married

____ Widowed

____ Separated

____ Divorced

8. What is your primary language? ____

9. Rate your proficiency in the English language.

1

Not proficient

2

Somewhat proficient

3

Proficient

4

Very proficient

10. What is your mother's occupation? ____

11. Was your mother born in the U.S.? YES NO

If NO, where was she born? ____

(Continue to next Page)

12. What is your mother's highest grade/college year complete?

- ☐ Some high school (last grade completed _____)
☐ High school (12th grade)
☐ Some college (last grade completed _____)
☐ Jr. College (A.A. degree)
☐ College (B.S. or B.A. degree)
☐ Graduate School

13. What is your Father's occupation? _____**14. Was your Father born in the U.S.? YES NO**

If NO, where was he born? _____

15. What is your father's highest grade/college year complete?

- ☐ Some high school (last grade completed _____)
☐ High school (12th grade)
☐ Some college (last grade completed _____)
☐ Jr. College (A.A. degree)
☐ College (B.S. or B.A. degree)
☐ Graduate School

16. What is your religion (please check one)?

- Mormon _____ Protestant _____
 Catholic _____ Buddhist _____
 No religion _____ Other (specify) _____

17. Number of units you are taking this semester _____**18. Typical number of units taken each semester _____****19. Are you currently employed? YES NO**

If YES, how many hours to you typically work each week? _____

20. Have you ever seen a Psychologist, Psychiatrist, and/or a Counselor for clinical depression?

YES NO

If YES, when did you last see them (e.g., 1, 3, 8 months ago)? _____

Have you ever taken medication (prescribed/over the counter) for depression? YES NO

If YES, are you currently taking medication? YES NO

If YES, please name the medication. _____

21. Have you ever seen a Psychologist, Psychiatrist, and/or a Counselor for clinical anxiety?

YES NO

If YES, when did you last see them (e.g., 1, 3, 8 months ago)? _____

Have you ever taken medication (prescribed/over the counter) for anxiety? YES NO

If YES, are you currently taking medication? YES NO

If YES, please name the medication. _____

Appendix C

San José State
UNIVERSITY

College of Social Sciences
Department of Psychology

One Washington Square
San José, CA 95192-0120
Voice: 408-924-5600
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<http://www.psych.sjsu.edu>

**Agreement to Participate in Research at
San Jose State University**

Responsible Investigator(s): Teresa Soriano

Title of Protocol: Culture and Adjustment in Asian and Pacific Islander college students.

1. You have been asked to participate in a research study investigating the influence of acculturation on well-being.
2. If you agree to participate in the study, you will be asked to complete a series of questionnaires. This study will require you to participate in a 60-90 minute session. You have the right not to answer questions that you do not wish to answer.
3. There are no anticipated risks in this study; probability and magnitude of harm or discomfort are no greater than encountered in daily life.
4. Data gathered from this study will be stored in a locked file cabinet which no one but the experimenter and her faculty sponsor will be able to access. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be included in any published or unpublished manuscripts or reports.
5. Your decision to participate or not participate will not in any way prejudice your future relations with San Jose State University. If you decide to not participate, you are free to withdraw your consent and to discontinue your participation at any time without penalty.
6. If you have additional questions concerning the study or the results of the study you may contact Teresa Soriano (408-924-5600). Complaints about the research may be presented to Dr. Lynda Heiden (Thesis Chair, Associate Professor; 408-924-5647) or Dr. Shelia Bienenfeld (Departmental Chair, Department of Psychology; 408-924-5600). Questions or complaint about the research, participants' rights, or research-related injury may be presented to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research (408-924-2480).

Please sign below to indicate your voluntary consent to participate. At the time that you sign this consent form, you will receive a copy of it for your records, signed and dated by the investigator.

Your Printed Name/Signature

Date

Investigator's Signature

Date

The California State University:
Chancellor's Office
Bakersfield, Channel Islands, Chico,
Dominguez Hills, East Bay, Fresno,
Fullerton, Humboldt, Long Beach,
Los Angeles, Maritime Academy,
Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Appendix D

****PLEASE detach this page from the questionnaire packet
and take it with you. ****

**If you feel that you need help with depression or anxiety free services
are available for students through the following campus resources:**

SJSU Counseling Services

Administration Bldg., Rm.201
One Washington Square
San José, CA 95192-0035
(408) 924-5910 | (408) 924-5933(fax)
Email: cs0035@email.sjsu.edu

SJSU Health Center

Student Health Center
Health Building 106
One Washington Square
San José, CA 95192-0037
(408) 924-6120 General Info
(408) 924-6122 Appointments
(408) 924-6110 Administration
Email: relrod@email.sjsu.edu