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The Impact of Acculturation, Close Friendship Quality, and
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Korean American Adolescents

by

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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Nursing

in the

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of the

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The Impact of Acculturation, Close Friendship Quality, and Personality Traits on the Mental Health Problems of Korean American Adolescents

Minjeong Kim

Statement of the Problem: Korean American adolescents are a population that may be particularly vulnerable to mental health problems because of the potential cultural conflicts they face during an important developmental period. Yet little is known about their mental health problems or their risk and protective factors. The purposes of this study were to examine 1) the prevalence of various mental health problems among Korean American adolescents; 2) the degree to which acculturation, close friendship quality, and personality traits are associated with their mental health problems; and 3) whether personality traits moderate any effect of acculturation and close friendship quality on their problems.

Methods and Procedures: This cross-sectional study included 138 Korean American adolescents from community settings in California. A demographic questionnaire, the Stephenson Multigroup Acculturation Scale, the Relationship Quality Questionnaire, the NEO Five-Factor Inventory-3, and the Youth Self Report were completed by adolescents. Descriptive analyses and hierarchical regression analyses were used to examine the aims.

Findings: Results indicate that 18% of the Korean American adolescents experienced clinically significant mental health problems. Most problems were of the internalizing type such as anxiety and depression where almost 23% of the youth reached the cutoff for clinical significance. Personality traits of neuroticism (sensitivity/emotional instability) and less agreeableness (difficulty getting along with others) were significant predictors of more mental health problems, whereas acculturation and close friendship quality were not significant predictors. Two personality traits moderated the effects of acculturation and close friendship on mental health.

For adolescents who valued new and diverse experience (openness), greater acculturation was a protective factor for their mental health. For adolescents who had difficulty getting along with others (less agreeable), an emotionally supportive friendship reduced the likelihood of mental health problems. Findings indicate the need to examine effects of acculturation and close relationships on specific mental health problems, especially depression, among subgroups of Korean youth with particular personality traits. Results also suggest the need for depression and anxiety screening as part of health care for Korean American youth. In addition, assessment of their personality traits should be considered as important risk factors for mental health problems.

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CHAPTER I. INTRODUCTION

CHAPTER I.

INTRODUCTION

Significance

Koreans are the fifth largest Asian American subgroup following the Chinese, Filipino/a, Indian, and Vietnamese (Rhee, Chang, & Rhee, 2003). The Korean community has a recent trend of immigration history in the United States. Approximately 80% of Korean immigrant families consist of parents who immigrated as adults and children who were U.S. born or immigrated at a young age (Y. Choi, 2008; Yeh, 2003). Although the Korean American population is rapidly growing, little attention has been paid to the adaptation of these families to the American culture. This is especially true for Korean American adolescents whose adaptation may be particularly challenging because of their developmental stage and the potential conflict between Korean and American values that may emerge during this time. The many challenges faced by these adolescents in adapting to a different culture could result in their greater risk of mental health problems.

Only a few studies have been conducted over the last few years to examine the prevalence of mental health problems among Korean American adolescents. In general, this research indicates that Korean American adolescents have minimal to moderate levels of mental health problems (S. Cho & Bae, 2005; E. Kim & Cain, 2008; Shrake & Rhee, 2004; Yeh, 2003) as well as lower alcohol and marijuana use compared to the national average (Rockville, 2011). However, little is actually known about the specific types of mental health problems experienced by these youth and whether some problems are more prevalent than others.

In addition, very few studies have examined factors that may contribute to mental health problems of these youth. Perceived discrimination (Shrake & Rhee, 2004), being bullied at school or in the community (Shin, D'Antonio, Son, Kim, & Park, 2011), and less than optimal parental relationships (E. Kim & Cain, 2008) have been identified as factors contributing to more

mental health problems. Other factors that may influence their mental health have not been addressed. Among these, the degree of acculturation of the adolescents seems particularly important in that cultural conflicts could create substantial stress. Previous research indicates that adolescents are expected to learn new language and cultural values more quickly than their parents (Quintana et al., 2006) yet they are expected to abide by traditional family values. Koreans respect interdependence, obedience, and interpersonal harmony. These values tend to be maintained by Korean immigrant families, which might be related to lower prevalence of externalizing problems such as rule-breaking problems (Greenfield, Keller, Fuligni, & Maynard, 2003; B. S. K. Kim, Atkinson, & Umemoto, 2001). On the other hand, independence tends to be highly respected in the U. S., potentially leading to less alignment with Korean family values. The adolescents must negotiate these dual expectations from home and dominant culture which may be stressful (Rhee, et al., 2003). Thus, better understanding the effects of acculturation on their mental health seems essential.

Another important factor is the quality of peer relationships. As part of their developmental stage, adolescents have a shift in their social affiliation from family to peers. Establishing emotional separation from one's parents, as part of the developmental process, may be challenging because Asian culture places a strong emphasis on connectedness to family (Yeh, 2003). This developmental task of Korean American adolescents may affect their identity development and associated mental health or the quality of their peer relationships (Johnson, Blum, & Giedd, 2009; Pugh & Hart, 1999). Poor relationship quality with friends has been associated with more internalizing problems such as anxiety, depression, and somatic complaints (S. Cho & Bae, 2005). On the other hand, increased alignment with peers during puberty has been linked to increased risk-taking behaviors such as substance abuse (Gardner & Steinberg,

2005; Steinberg, 2008; Steinberg & Morris, 2001). The effect of peer relationships on the mental health of Korean American youth must be clarified.

Lastly, the way in which an individual manages developmental changes during adolescence is influenced by his or her personality traits. Personality traits shape how one engages the world and may also influence mental health outcomes (Merz & Roesch, 2011). For example, previous research indicates that neuroticism (being more sensitive, anxious or negative in response to the environment) is highly related to depression (Zhang, Mandl, & Wang, 2010) and how psychosocial stressors are perceived (Mangold, Veraza, Kinkler, & Kinney, 2007). Given that personality traits have also been associated with one's degree of acculturation (Eap et al., 2008) and peer relations (Lopes, Salovey, & Straus, 2003), they may moderate the effects of these variables on mental health problems during adolescence. However, no studies have examined the direct or moderating impact of personality traits on the mental health problems of Korean American adolescents.

Statement of the Problem and Conceptual Framework

Korean American adolescents are a population that may be particularly vulnerable to mental health problems because of the potential cultural conflicts they face during an important developmental period. Yet little is known about their specific mental health problems or factors that may contribute to their mental health. The purpose of this study was to address these gaps by expanding existing knowledge in this field. The following framework shows the concepts and relationships that will be examined. The framework was developed from review of the literature. The solid lines show direct effects of acculturation, peer relationship quality, and personality traits on the mental health problems of Korean American adolescents. The dotted lines show

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moderating effects of personality traits on the relationship between acculturation and mental health problems, and between peer relationship quality and mental health problems.
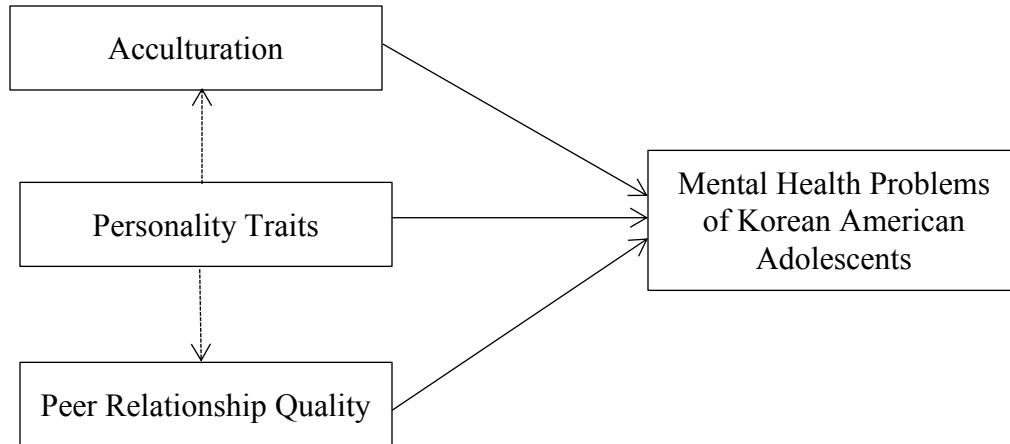
Figure 1. Conceptual Framework for the Study

Research Aims

Aim 1: to determine the prevalence of various mental health problems among Korean American adolescents, considering gender and age differences

Aim 2: to determine the degree to which acculturation, the quality of peer relationships, and personality traits are associated with the mental health problems of Korean American adolescents

Aim 3: to determine whether the personality traits of Korean American adolescents moderate any effect of acculturation and peer relationship quality on their mental health problems.

Potential Impact of the Research

Findings of this research may improve health care professionals' understanding of the mental health problems of Korean American adolescents. They may assist pediatric and adolescent clinicians in screening for mental health problems by identifying areas of potential concern that should be assessed. Results may also help in identifying factors that may place Korean American adolescents at risk of mental health problems. Based on these findings, it could

be possible to create mental health assessments that are more targeted to the needs of Korean American youth. Results may also aid in eventual development of prevention strategies to better address the needs of adolescents with different risk profiles.

Organization of the Dissertation

The remaining parts of the dissertation are organized in 4 chapters. Chapters 2 through 4 present the design, methods and findings for each of the major aims. Chapter 2 focuses on the prevalence of various mental health problems in a sample of Korean American adolescents and identifies gender and age differences in their mental health problems. Chapter 3 addresses the contribution of acculturation and personality traits to mental health problems as well as the moderating effect of personality traits on the association between acculturation and mental health problems. Chapter 4 focuses on the contribution of peer relationship quality (specifically close friendships) to mental health problems as well as the moderating effect of personality traits on the association between close friendships and mental health problems. The final chapter of the dissertation synthesizes findings from the testing of all aims and proposes recommendations for research and practice.

CHAPTER II.

MENTAL HEALTH PROBLEMS AMONG KOREAN AMERICAN ADOLESCENTS

Background

Koreans are the fifth largest Asian American subgroup following the Chinese, Filipino/a, Indian, and Vietnamese (Rhee, et al., 2003). The Korean community has a recent trend of immigration history in the United States (Y. Choi, 2008; Yeh, 2003). Although the Korean American population is rapidly increasing, little is known about the mental health problems of Korean American adolescents (Lai, 2005; Lim, Stormshak, & Falkenstein, 2011; Takeuchi, Hong, Gile, & Alegría, 2007).

Adolescence is recognized as a challenging time for all adolescents but it may put Korean American adolescents at particular risk for mental health problems. Approximately, 80% of these youth have parents who have immigrated to the U.S. or who have themselves immigrated to the U.S. as children (E. Kim, Cain, & McCubbin, 2006; Passel, 2011). Immigration stressors such as cultural differences, discrimination, and changes in social support or income have been associated with mental health problems for these families (Bernstein, Park, Shin, Cho, & Park, 2011; J. Choi, Miller, & Wilbur, 2009). In spite of these factors, very few studies have examined mental health problems of Korean American adolescents.

Cho and Bae (2005) examined internalizing behavior problems (i.e. depression, anxiety, withdrawal, and somatic problems) of 340 Korean American adolescents in a metropolitan area. In their study, adolescents reported a mean of 16.4 ($SD = 9.9$) out of 62 points for internalizing behavior problems, indicating they had more mental health problems than the norm when compared to typical adolescents who had not been referred for psychiatric care (Achenbach & Rescorla, 2001). In another metropolitan sample of 217 Korean American youth, Shrake and Rhee (2004) found that the adolescents reported a moderate level of both internalizing and externalizing (i.e. aggression, rule-breaking) behavior problems. Yeh (2003) examined mental

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health symptoms in 141 Chinese, 122 Korean, and 54 Japanese American adolescents. Korean American adolescents reported a mean of 1.28 (*SD* = 0.65) out of 5 points on the Symptom CheckList-90-Revised (SCL-90-R), which was higher than Chinese (*M* = 0.90) and Japanese (*M* = 0.99) adolescents, but still low.

Two studies focused specifically on depressive symptoms in Korean American adolescents. Shin, D'Antonio, Son, Kim, & Park (2011), in an investigation of the relationship between bullying experience and depressive symptoms of 295 Korean American adolescents, found that those who experienced being bullied and those who experienced both being bullied and bullying reported levels of depression above the clinical cut-off score of 16 (*M* = 18.0 - 19.3). Kim and Cain (2008), in their study of parenting and depressive symptoms of 56 Korean American adolescents, found that about 40% of the participants had clinically meaningful depressive symptoms.

Gender and age differences have been examined in a few studies. Findings regarding gender differences in mental health problems of Korean American adolescents are inconsistent. Shrake and Rhee (2004) found that females had more internalizing behavior problems than males, whereas other studies found no gender differences in mental health problems (S. Cho & Bae, 2005; E. Kim & Cain, 2008). Lee, Yim, Curry, and Rodriguez (2012) reported that females had less school delinquency than males, whereas other studies found no gender differences in delinquency (Lee, et al., 2012) or in externalizing behavior problems (Shrake & Rhee, 2004). With the exception of one study, no age differences in mental health problems have been reported. Lee et al. (2012) found that older adolescents had more serious delinquency and school delinquency, whereas other studies found no age differences in any mental health problems (S. Cho & Bae, 2005; E. Kim & Cain, 2008; Lee, et al., 2012).

The purpose of this study was to advance existing knowledge by clarifying the types of mental health problems that may most frequently occur in Korean American youth and the potential differences in specific problems by gender and age. Research to date indicates that Korean American adolescents have minimal to moderate levels of mental health problems but little is actually known about the specific types of mental health problems experienced by these youth and whether some problems are more prevalent than others. Almost nothing is known about the prevalence of social, thought, and attention problems because they are not considered either internalizing or externalizing problems. Lastly, there are conflicting findings regarding the degree to which gender and age may play a role in severity of these problems. The specific aims of this study were 1) to determine the prevalence of various mental health problems in a sample of Korean American adolescents, and 2) to identify whether gender or age of the youth are associated with the types or severity of their mental health problems.

Methods

Participants and Setting

The sample included Korean American adolescents who were recruited from Korean churches, Korean language schools, Korean shopping malls and restaurants, mental health centers serving Asian and Pacific Islander communities, and websites for the Korean community in California. Inclusion criteria were: 1) 10-19 years old, 2) self-identified as Korean American, 3) able to communicate in Korean or in English. Adolescents and/or families who could not understand the purpose of the study or the informed consent were excluded.

Procedure

The study was approved by the Committee on Human Research (CHR) of the University of California, San Francisco. If an adolescent was interested in participating, a packet of

materials (including self-report measures and an informed written consent for both the adolescent and the parent) was sent. Participants returned completed materials to the researcher. Follow-up phone calls or e-mail occurred when necessary to gather missing information. If the participant received scores for their mental health problems indicating a level of clinical concern, the researcher discussed the findings with the parent and adolescent and gave them a list of mental health service resources. The recruitment period was from January 2013 through December 2014.

Measures

Demographic Questionnaire. A 6-item demographic questionnaire was used. The items consisted of gender, age, father and mother's educational level, adequacy of family income, and length of residence in the U.S.

Youth Self Report. The Youth Self Report (YSR) was the measure of mental health problems. It is a self-report questionnaire developed for youth 11-18 years of age to measure their problematic feelings, thoughts, and behaviors during the past 6 months (Achenbach & Rescorla, 2001). The YSR contains 112 items, each on a 3-point Likert scale. The higher the youth's score on the scales, the greater the psychological distress the youth is experiencing. The YSR has eight empirically-based syndrome scales: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior. These are then calculated into composite scores for Internalizing Problems, Externalizing Problems, and Total Problems. Cut-offs for normal, clinical and borderline concern were also determined based on established scores in the YSR manual. The clinical range is derived from research that has established scores for adolescents who are being treated for mental health problems in a clinical setting. The Borderline range reflects scores that are close to the clinical range but do not quite meet the cut-off. Scores in the

normal range reflect samples of children who have not been referred for mental health problems. All comparison scores are gender-specific.

Varied studies have shown good to excellent Cronbach's alpha scores for the eight empirically-based syndrome scales (α = .67-.86), Internalizing Problems (α = .89-.90), Externalizing Problems (α = .89-.90), and Total Problems scales (α = .93-.95) (Achenbach & Rescorla, 2001; Ebesutani, Bernstein, Martinez, Chorpita, & Weisz, 2011; Ivanova et al., 2007; Rescorla et al., 2007). Content validity, criterion-related validity, concurrent validity, and the factor structure of the YSR have also been established (Achenbach & Rescorla, 2001; Ebesutani, et al., 2011; van Lang, Ferdinand, Oldehinkel, Ormel, & Verhulst, 2005). The YSR has been translated into about 40 languages and also has been used in about 40 countries. The YSR has been tested in Far East Asian countries such as China, Japan, and Korea as well as in Western countries, with good to excellent reliabilities (Ivanova, et al., 2007; Rescorla, et al., 2007). Therefore, the YSR is considered to be a reliable and valid instrument for measuring the mental health problems of Korean American adolescents.

Data Analysis

Descriptive statistics were used to examine sample characteristics, including frequency and percent for gender, father and mother's educational level, and adequacy of family income, and means and standard deviations (*SDs*) for age and length of residence in the U.S. In order to examine the prevalence of various mental health problems in the sample (Aim 1), means and *SDs* were calculated for eight empirically-based syndrome scales, which were then used to create mean scores for the composite scales: Internalizing Problems, Externalizing Problems, and Total Problems. Percent of the sample falling into 'normal', 'borderline,' and 'clinical' ranges was determined for all scores based on *T*-scores provided in the YSR manual. After assessing

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normality of distribution for the mental health problem scales, log transformations were conducted for Thought Problems and Rule-Breaking Behavior because these two scores were skewed. Lastly, to examine differences in gender and age (Aim 2), t-tests were conducted to compare the mean level of the eight empirically-based syndrome scales as well as Internalizing Problems, Externalizing Problems, and Total Problems. For the age comparison, youth were divided into 2 groups of 15 and older or 14 and younger based on the mean age of the participants of this study. The level of significance for all statistical tests was set at .05. Data were analyzed using SPSS version 22.

Results

Participants consisted of 57 males (41.3%) and 81 females (58.7%). The mean age of the participants was 14.43 years (10-19 years, $SD = 2.09$). 67% of the participants were born in the U.S. 87% of fathers and 80% of mothers had a college or higher education. 61% of the participants reported that "their family had enough money but no extra" and 36% reported that "they had more money than they need" (see Table 1).

Participants' type and severity of mental health problems are presented in the Table 2. Among eight empirically-based syndrome scales, the T score mean on the anxious/depressed scale was the highest ($M = 58.6$, SD 8.6), followed by means on social problems ($M = 57.9$, SD 7.1) and withdrawn/depressed ($M = 57.5$, SD 8.1). The T score mean of rule-breaking behavior was the lowest ($M = 53.6$, SD 4.7). For internalizing problems (including the anxious/depressed, withdrawn/depressed, and somatic complaints scales), the T score mean was 55.4 ($SD = 10.7$). For externalizing problems (including the rule-breaking behavior and aggressive behavior scales), the T score mean of 51.2 ($SD = 9.3$) was reported. The T score mean for total problems (including social, thought, attention, and other problems scales as well as internalizing and

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externalizing problems) was 54.1 (SD = 10.1). As shown in Table 2, about 20% of the participants fell into either the borderline and clinical ranges for anxious/depressed, withdrawn/depressed, and social problems, whereas only 2% of the participants fell into the borderline or clinical ranges for rule-breaking behavior. 22.6% of the participants were in the clinical range for internalizing problems, 8.1% for externalizing problems, and about 17.6% for total problems. Those reaching a level of borderline concern included 16.1% of the youth for internalizing problems, 11.8% for externalizing problems, and 11.5% for total problems.

Mean *T*-scores for gender and age are also shown in Table 2. Independent sample t-tests indicated significant gender differences in the level of anxious/depressed (t (136) = -3.10, p < .01), somatic complaints (t = -2.68 (135), p < .01), and rule-breaking behavior scales (t = 2.55 (134), p < .05). Girls had higher mean scores for being anxious/depressed (7.96 vs. 5.42) and for somatic complaints (3.83 vs. 2.55), while boys had higher scores for rule-breaking behavior (4.04 vs. 2.86). Among the 3 overarching, combined scales, girls had a significantly higher level of internalizing problems than boys (16.27 vs. 11.98, t = -2.81 (132.4), p < .01). On the remaining scales, boys and girls demonstrated comparable scores for their mental health problems. For age, there was one significant difference; it was for rule-breaking behavior (t = -2.68 (134), p < .01). Adolescents 15 years old or older reported significantly higher levels of rule-breaking behavior than adolescents 14 or younger (3.90 vs. 2.78). There were no other significant age group differences.

Discussion

Findings indicate that approximately 18% of Korean American adolescents in this sample from the western United States experienced clinically significant mental health problems. Most of these problems appeared to be of the internalizing type where scores for almost 23% of

the youth were in the clinical range; that is, their scores were comparable to youth who are being treated for mental health problems in clinical settings. Anxiety/depression was the primary mental health problem of these youth, with 20% falling into either the clinical or borderline ranges. 19% were in the clinical or borderline ranges for withdrawal/depression. The youth also experienced high levels of social problems, with almost 19% in the clinical or borderline ranges. In each of these areas, Korean American adolescents in this study had more mental health problems than the norm when compared to typical adolescents who had not been referred for psychiatric care (Achenbach & Rescorla, 2001). Their scores for thought problems and attention problems were also slightly higher than established norms. However, scores for somatic complaints, rule-breaking behavior, and aggressive behavior as well as the composite score for externalizing problems were comparable to the norms identified for nonreferred children in the U.S.

Compared to previous studies of Korean American youth, scores for anxious/depressed, withdrawn/depressed, somatic complaints, and internalizing problems in our study were comparable or slightly lower than what Cho and Bae (2005) found. The difference may be due to different characteristics of the samples in these two studies. Participants of our study were 0.6 years younger than those of Cho and Bae's (2005) study. Because older age has been significantly associated with more mental health problems, the younger population in this study might show fewer mental health problems. Although it is difficult to compare scores from our study with those of Shrake and Rhee's (2004) research due to a difference in score calculations, Korean American adolescents in both studies experienced fewer externalizing problems than internalizing problems. Congruent with our results, Shrake and Rhee found that Korean American adolescents had high levels of anxiety/depression and social problems and low levels

of rule-breaking behavior. These findings are also consistent with previous results of ethnic group comparisons, indicating that Asian American adolescents had more anxiety disorders and social problems but less delinquent behavior than European American adolescents, although some Asian American subgroup differences were found (Lorenzo, Frost, & Reinherz, 2000; Nguyen et al., 2004; Willgerodt & Thompson, 2006; Yeh, 2003).

Considering our results in conjunction with that of previous research, it would appear that anxiety, depression and social challenges are a major concern for a substantial percent of Korean American youth. These problems could stem to some extent from the dual expectations faced by these adolescents as they attempt to accommodate values of both their traditional Korean culture and those of the U.S. during a time of developmental transition. Traditional Confucian values such as interdependence, interpersonal harmony, conformity to family and social norms, and strong respect for elders (Greenfield, et al., 2003; B. S. K. Kim, et al., 2001) may be in conflict with the values and behavior of their U.S. peers. U.S. adolescents may be more likely to challenge authority, place less emphasis on alignment with family norms, and strive for independence than Korean American adolescents. It has been proposed that this conflict in values may lead to difficulty adjusting and increased risk for internalizing problems (Rhee, et al., 2003).

Our findings that Korean American adolescents had slightly higher attention and thought problems than the norm are some of the first to be reported. Results of the one previous study that examined attention problems among Asian American adolescents did not find higher levels than the norm (Nguyen, et al., 2004). So our findings need replication. Although our results could suggest a risk for attention-deficit disorder, findings could also indicate a high level of concern among the youth regarding their school performance. This interpretation is based upon

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the questions about school performance and trouble concentrating that are part of the attention scale and the very high expectations to excel in education within Korean American families. To our knowledge, there has been no other study with Asian American adolescents that has examined thought problems of Korean American youth. Although the YSR 'thought problems scale' has been linked to a number of psychiatric symptoms and disorders, its relationship to obsessive-compulsive behavior (OCB) may be relevant here (Hudziak et al., 2006; Ivarsson, Melin, & Wallin, 2007). Our findings could reflect a greater emphasis among Korean American adolescents than other adolescents on certain behaviors that are similar to OCB (e.g. perfectionism and being overly conscientious) since these are valued qualities among Korean Americans (B. S. K. Kim, et al., 2001).

A number of gender differences emerged in the findings. Girls reported significantly higher levels of anxiety/depression and somatic complaints, contributing to their higher internalizing score as well. In contrast, boys had more rule-breaking behavior than girls. These results are consistent with findings from most previous research with Korean American adolescents (S. Cho & Bae, 2005; Lee, et al., 2012; Shrake & Rhee, 2004) and with adolescents in general (Rockville, 2009, 2011). However, the findings are in conflict with one study of Korean American adolescents that found no gender differences in depressive symptoms (E. Kim & Cain, 2008). As to age differences in mental health problems, older adolescents reported significantly higher levels of rule-breaking behavior. This finding is consistent with results from a previous study of Korean American adolescents that found a positive correlation between age and delinquent problems (Lee, et al., 2012) and with research of adolescents in general (Rockville, 2009, 2011). However, the findings are in conflict with one study that found no age

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differences in externalizing problems between younger (13-15 years old) and older Korean American adolescents (16-18 years old) (Shrake & Rhee, 2004).

Limitations of the study should be noted. Because participants were recruited in California, the findings may not be generalized to Korean Americans throughout the U.S. In addition, 70% of the sample were second or higher generation immigrants whose parents were well-educated. Findings may be different for adolescents who have immigrated more recently or are from lower socioeconomic backgrounds. However, our sample characteristics are consistent with those in other studies of Korean Americans (S. Cho & Bae, 2005; Passel, 2011). In addition, the convenience sample may have not included a broad or representative distribution of mental health problems. Lastly, self-report measures of mental health were used; it is possible that clinician evaluation or inclusion of parent report would have provided a more comprehensive assessment of participants' mental health problems.

Further research is needed using a multi-method approach to assessing mental health with more representative samples of youth. In addition, it is important to identify factors that may contribute to the high prevalence of depression, anxiety and social problems for Korean American adolescents. Studies to further examine the prevalence of attention and thought problems are also needed, including assessments to clarify whether the youth are at risk for particular psychiatric disorders such as ADHD or Obsessive Compulsive Disorder.

Despite study limitations, our findings contribute to a more comprehensive understanding of Korean American adolescents' mental health problems. Results have particular implications for assessment. Pediatric and adolescent clinicians need to screen for depression and anxiety as part of their ongoing care. Symptoms of these problems may not manifest overtly, especially among Korean American youth who have been socialized as part of their culture to

show positive emotions in their interactions with others. Prevention programs also need to be developed in Korean American communities, including awareness among families of symptoms associated with depression and anxiety as well as resources for referral of youth who may need more comprehensive assessment and treatment.

Table 1
Demographic Characteristics of Korean American Adolescents ($N = 138$)

Variable	n (%)/ M (SD)
Gender	
Male	57 (41.3)
Female	81 (58.7)
Age	14.43 (2.09)
Birthplace	
U.S.	93 (67.4)
Korea or other	45 (32.6)
Father's Education	
High school or below	17 (12.8)
College or vocational school	22 (16.5)
Associate or Bachelor degree	47 (35.3)
Graduate school or higher	47 (35.3)
Mother's Education	
High school or below	26 (19.7)
College or vocational school	19 (14.4)
Associate or Bachelor degree	48 (36.4)
Graduate school or higher	39 (29.5)
Family Income	
Not enough money for food and place to live	0 (0.0)
Not enough money for clothes or school supplies	4 (3.0)
Enough money but no extra	82 (60.7)
More money than we need	49 (36.3)

Table 2

T Score Means and Percent of Mental Health Problems in the Normal, Borderline, and Clinical Ranges by Gender and Age

	Anxious/ Depressed M (SD)	Withdrawn/ Depressed M (SD)	Somatic Complaints M (SD)	Social Problems M (SD)	Thought Problems M (SD)	Attention Problems M (SD)	Rule-Breaking Behavior M (SD)	Aggressive Behavior M (SD)	Internalizing Problems M (SD)	Externalizing Problems M (SD)	Total Problems M (SD)
Total	58.6 (8.6)	57.5 (8.1)	55.2 (6.0)	57.9 (7.1)	56.8 (7.0)	56.8 (7.6)	53.6 (4.7)	55.4 (6.6)	55.4 (10.7)	51.2 (9.3)	54.1 (10.1)
Range (%)											
Normal	79.7	80.4	89.1	81.2	87.3	85.5	97.8	90.5	61.3	80.1	71.0
Borderline	10.1	13.0	10.2	11.6	6.7	8.0	1.5	3.6	16.1	11.8	11.5
Clinical	10.1	6.5	0.7	7.2	6.0	6.5	0.7	5.8	22.6	8.1	17.6
Gender											
Male	58.2 (8.7)	57.1 (6.2)	55.0 (6.3)	57.6 (7.2)	56.6 (5.9)	57.1 (7.5)	54.4 (4.7)	55.1 (5.7)	55.4 (10.2)	51.6 (8.9)	54.2 (9.9)
Range (%)											
Normal	80.7	77.2	89.3	84.2	89.1	82.5	100.0	94.7	60.7	83.9	69.8
Borderline	8.8	19.3	8.9	7.0	9.1	10.5	0.0	3.5	16.1	8.9	15.1
Clinical	10.5	3.5	1.8	8.8	1.8	7.0	0.0	1.8	23.2	7.1	15.1
Female	58.9 (8.7)	57.9 (9.3)	55.3 (5.8)	58.1 (7.0)	57.0 (7.8)	56.6 (7.7)	53.0 (4.6)	55.6 (7.2)	55.4 (11.1)	50.9 (9.6)	54.0 (10.2)
Range (%)											
Normal	79.0	82.7	88.9	79.0	86.1	87.7	96.3	87.5	61.7	77.5	71.8
Borderline	11.1	8.6	11.1	14.8	5.1	6.2	2.5	3.8	16.0	13.8	9.0
Clinical	9.9	8.6	0.0	6.2	8.9	6.2	1.3	8.8	22.2	8.8	19.2
Age											
14 & Below	57.4 (7.6)	56.6 (8.8)	54.4 (5.4)	57.0 (6.8)	56.2 (6.6)	56.5 (7.9)	52.7 (4.4)	55.3 (6.8)	53.7 (10.5)	50.3 (9.6)	52.9 (9.9)
Range (%)											
Normal	88.4	87.0	92.6	84.1	91.3	87.0	97.0	88.2	73.5	80.6	72.7
Borderline	4.3	5.8	7.4	10.1	4.3	7.2	1.5	5.9	11.8	11.9	13.6
Clinical	7.2	7.2	0.0	5.8	4.3	5.8	1.5	5.9	14.7	7.5	13.6
15 & Above	59.8 (9.4)	58.5 (7.4)	56.0 (6.4)	58.7 (7.3)	57.5 (7.4)	57.2 (7.4)	54.5 (4.8)	55.5 (6.4)	57.0 (10.7)	52.2 (9.0)	55.3 (10.1)
Range (%)											
Normal	71.0	73.9	85.5	78.3	83.1	84.1	98.6	92.8	49.3	79.7	69.2
Borderline	15.9	20.3	13.0	13.0	9.2	8.7	1.4	1.4	20.3	11.6	9.2
Clinical	13.0	5.8	1.4	8.7	7.7	7.2	0.0	5.8	30.4	8.7	21.5

Note. Gender *n*'s were 57 male and 81 female; 69 youth were 14 and younger, 69 youth were 15 and older.

CHAPTER III.

THE IMPACT OF ACCULTURATION AND PERSONALITY TRAITS ON THE

MENTAL HEALTH OF KOREAN AMERICAN ADOLESCENTS

Background

Adaptation to a new culture can be highly stressful, especially during critical developmental stages such as adolescence. However, little is known regarding factors that may influence mental health problems of Korean American adolescents who experience this adaptation. Interest has grown in the potential role of acculturation in their mental health outcomes. A few studies have examined the ways in which acculturation may influence mental health of these youth. In their study of acculturation and adjustment, Cho, Hudley, and Back (2003) found that second-generation Korean American adolescents who were more aligned with the values of the Western culture were more self-reliant and able to face life challenges than their Korean American peers who were less acculturated. Yeh (2003) found that greater alignment with the values of Western culture was associated with fewer symptoms of mental health problems for Korean American adolescents. However, Cho & Bae (2005) reported no relationship between degree of acculturation and the presence of emotional and behavioral problems of the internalizing type (i.e. depression, withdrawal, anxiety) among Korean American adolescents. In contrast, Lee et al. (2012) found that greater acculturation significantly predicted higher alcohol and drug use by Korean American youth affiliated with Catholic schools. As these studies indicate, there are conflicting findings regarding the association between acculturation and the mental health or adjustment of Korean American adolescents.

The ways in which adolescents adapt to a culture may be influenced substantially by their personality traits. Personality traits are the unique and relatively stable patterns of behavior, thought and emotion that distinguish different people. Although a variety of traits have been studied, the five-factor model of personality has been most widely accepted (McCrae & Costa, 2008; Widiger & Costa, 2012). This model proposes traits of neuroticism (emotional instability,

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distress in response to stressors), extraversion (sociability, energy, positive emotionality), openness to experience (appreciation of personal emotion, curiosity, independent judgment), agreeableness (trustfulness, altruism, cooperativeness), and conscientiousness (goal directed, self-control, organization) as core dimensions of personality that are present in all individuals to a greater or lesser extent. Research has shown compelling links between personality traits and a wide variety of mental disorders (Krueger & Eaton, 2010), including outcomes of a meta-analysis of 33 studies (Malouff, Thorsteinsson, & Schutte, 2005). Since early seminal research that examined personality traits in adolescents (Krueger, 1999; Krueger, Caspi, Moffitt, Silva, & McGee, 1996), studies have continued to indicate that personality traits are strongly associated with mental health outcomes for youth (Cyders, Flory, Rainer, & Smith, 2009; Hopwood & Grilo, 2010; Moore et al., 2013; Silva, 2007; Smith, Guller, & Zapolski, 2013; Stautz & Cooper, 2013; Tackett, 2006).

However, few studies have examined this relationship in adolescents who are attempting to manage the expectations of 2 different cultures. Zhang, Mandl, & Wang (2010) assessed the relationship of five personality traits to depression and self-esteem of Chinese college students in Germany. They reported that the traits of neuroticism and conscientiousness were associated with higher levels of depression, while extraversion and openness to experience were related to higher self-esteem. Although not focused on mental health outcomes, a study of Mexican American college students found that neuroticism significantly predicted higher levels of acculturative stress (Mangold, et al., 2007). This finding by Mangold and colleagues suggests that certain traits may influence acculturation differently than other traits and potentially moderate the effect of acculturation on mental health. However, very few studies have examined the relationship between acculturation and personality traits. One study of Asian American

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college students found that a greater alignment with values of the Western culture was positively correlated with extraversion, conscientiousness, and openness to experience, while acculturation was negatively correlated with neuroticism (Eap, et al., 2008). Identical associations between personality traits and acculturation were reported in a study of Chinese undergraduate students in Canada (Ryder, Alden, & Paulhus, 2000).

Whether personality traits might moderate the risk for mental health problems associated with acculturation is still unknown. However, meta-analyses have found that extraversion, conscientiousness, and openness are associated with more adaptive coping styles when individuals are experiencing distress/adversity (e.g. acculturative stress), and that the interaction between personality and coping style can influence mental health outcomes (Carver & Connor-Smith, 2010). In addition, a study of Korean Americans showed that personality traits interact with acculturation to affect coping in different ways (Roesch, Wee, & Vaughn, 2006). In that research, neuroticism was linked to avoidant coping while extraversion, conscientiousness and openness were related to strategies such as positive reframing and acceptance.

Research Aims

Research to date provides a foundation for understanding the roles that acculturation and personality traits may play in development of mental health problems among Korean American youth. But many questions remain. The purpose of this study was to expand existing knowledge by examining the influence of acculturation, personality traits, and their interaction on the mental health problems of Korean American adolescents. The specific aims were: 1) to determine whether the degree of acculturation and specific personality traits were associated with mental health problems of Korean American adolescents, and 2) to determine whether specific

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personality traits would moderate the association between acculturation and mental health problems of these youth.

Methods

Participants and Setting

The sample included Korean American adolescents who were recruited from Korean churches, Korean language schools, Korean shopping malls and restaurants, mental health centers serving Asian and Pacific Islander communities, and websites for the Korean community in California. Inclusion criteria were: 1) 10-19 years old, 2) self-identified as Korean American, 3) able to communicate in Korean or in English. Adolescents and/or families who could not understand the purpose of the study or the informed consent were excluded.

Procedure

The study was approved by the Committee on Human Research (CHR) of the University of California, San Francisco. If an adolescent was interested in participating, a packet of materials (including self-report measures and an informed written consent for both the adolescent and the parent) was sent. Participants returned completed materials to the researcher. Follow-up phone calls or e-mail occurred when necessary to gather missing information. If the participant received scores for their mental health problems indicating a level of clinical concern, the researcher discussed the findings with the parent and adolescent and gave them a list of mental health service resources. The recruitment period was from January 2013 through December 2014.

Measures

Demographic Questionnaire. A 6-item demographic questionnaire was used. The items consisted of gender, age, father and mother's educational level, adequacy of family income, and length of residence in the U.S.

Stephenson Multigroup Acculturation Scale. The Stephenson Multigroup

Acculturation Scale (SMAS) is a self-report, 4-point Likert scale to measure one's degree of

immersion in dominant American culture versus one's traditional ethnic culture (Stephenson,

2000). Items assess language, interaction, food, and media reflecting knowledge, behaviors, and

attitudes about the cultures (Stephenson, 2000). The Dominant Society Immersion (DSI)

subscale of the SMAS was used as the measure of acculturation in this study. One item was

deleted because although appropriate for adults, it was not relevant for adolescents to complete.

In addition, the words "newspaper" and "Anglo American" were replaced with more current

terminology, specifically "magazines/newspaper/non-school related books (online or offline)"

and "European American." The original author reported a Cronbach's alpha score of .86 for the

total score with a sample of 436 participants from five ethnic groups, including 8% Asian

Americans. The Cronbach's alpha score for the revised 14-item DSI subscale with this sample of

Korean American adolescents was .77. Convergent, discriminant validity, and the factor

structure of the SMAS have been established (Stephenson, 2000). Although the SMAS has not

been used extensively with Asian American adolescents, these findings suggest that the SMAS is

a reliable and valid instrument for measuring the degree of immersion in American culture of

Korean American adolescents.

NEO Five-Factor Inventory-3. The NEO Five-Factor Inventory-3 (NEO-FFI-3) is a

self-report measure, using 4-point Likert scales to measure 5 personality traits: Neuroticism (N;

(emotional instability, distress in response to stressors), Extraversion (E; sociability, energy,

positive emotionality), Openness to Experience (O; appreciation of personal emotion, curiosity,

independent judgment), Agreeableness (A; trustfulness, altruism, cooperativeness), and

Conscientiousness (C; goal directed, self-control, organization) (McCrae & Costa, 2007). The

subscale for each trait contains 12-items. The factor/trait structure was established originally with a sample of 500 adolescents, including about 8% Asian Pacific Islander adolescents (McCrae & Costa, 2007). All five factor/trait scores were used in this study. In the original testing of the measure, Cronbach's alpha scores for the subscales ranged from .72 for Agreeableness to .83 for Conscientiousness. Subscale alphas for our sample of adolescents were .80 for Neuroticism, .75 for Extraversion, .75 for Openness, .72 for Agreeableness, and .81 for Conscientiousness. Although the NEO-FFI-3 has not been used extensively with Asian American adolescents, these findings suggest that this instrument is reliable and valid for measuring Korean American adolescents' personality traits.

Youth Self Report. The Youth Self Report (YSR) was our measure of mental health problems. It is a self-report questionnaire developed for youth 11-18 years of age to measure their problematic feelings, thoughts, and behaviors during the past 6 months (Achenbach & Rescorla, 2001). The YSR contains 112 items, each on a 3-point Likert scale. The higher the youth's score on the scales, the greater the psychological distress the youth is experiencing. The YSR has eight empirically-based syndrome scales: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior. These are then calculated into composite scores for Internalizing Problems, Externalizing Problems, and Total Problems. The Total Problems score was used for our analyses.

Studies have shown excellent Cronbach's alpha scores for the Total Problems scale (α = .93-.95) (Achenbach & Rescorla, 2001; Ebesutani, et al., 2011; Ivanova, et al., 2007; Rescorla, et al., 2007). The Cronbach's alpha score for the Total Problems scale with this sample of Korean American adolescents was .94. Content validity, criterion-related validity, and concurrent

validity of the YSR have been established (Achenbach & Rescorla, 2001; Ebesutani, et al., 2011; van Lang, et al., 2005). The YSR has been widely tested in Far East Asian countries such as China, Japan, and Korea as well as in Western countries, with excellent reliabilities (Ivanova, et al., 2007; Rescorla, et al., 2007). Therefore, the YSR is considered to be a reliable and valid measure to assess Korean American adolescents' mental health.

Data Analysis

Descriptive statistics were used to examine sample characteristics, including frequency and percent for gender, father and mother's educational level, and adequacy of family income, and means and standard deviations (*SDs*) for age and length of residence in the U.S. Hierarchical linear regression analyses were used to examine the aims. Before examining the aims, assumptions for use of linear regression were tested. In addition, preliminary relationships were computed between the adolescents' mental health problems and all demographic and independent variables. Pearson's correlations were computed for continuous variables and t-tests were used for categorical variables. The distribution for family income and educational level of parents warranted creation of dichotomous groupings for these categorical variables. To examine Aim 1, demographic variables showing a significant relationship to mental health problems were included in the regression analysis at the first step to control for their effects. In the second step, scores for acculturation and for all personality traits were entered. To examine Aim 2, five separate hierarchical regressions were computed to examine the unique contribution of each personality trait and its interaction to acculturation. In these models, significant demographic variables were entered at the first step, scores for acculturation and one of the personality traits were entered at the second step, and the interaction between acculturation and the trait was

entered at the third step. Significance level was set at alpha level of .05 in all analyses. SPSS version 22 was used to compute statistical procedures.

Results

The sample included 138 adolescents. Fifty seven participants (41%) were males and 81 were females (59%). The mean age of the participants was 14.43 years (10-19 years, $SD = 2.09$). Their length of residence in the U.S. ranged from less than 1 to 18 years, with a mean score of 12.36 years ($SD = 4.14$). Approximately 71% of fathers and 66% of mothers had completed either college or graduate studies. About 61% of the participants reported that "their family had enough money but no extra" and 36% reported that "they had more money than they need."

Means and correlations for study variables with continuous scores are shown in Table 1. Length of residence in the U.S. had a high correlation with acculturation and a low but significant correlation with mental health problems. The personality trait of neuroticism had a negative low correlation with agreeableness but a high correlation with mental health problems. The personality trait of agreeableness had a negative moderate correlation with mental health problems. No significant correlations with mental health problems were found for age, acculturation or the personality traits of extraversion, openness, and conscientiousness. In addition, preliminary t-tests indicated no significant differences in mental health problems based on gender, father and mother's educational level, or family income. Based on preliminary analyses, length of residence was the only demographic variable included in regression analyses for the aims.

Table 2 presents findings for aim 1. Although length of residence in the U.S. was significant when it was the only variable in the model, it was not a significant predictor when scores for acculturation and all personality traits were entered in the second step. Consistent with

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preliminary bivariate correlations, only the 2 personality traits of neuroticism and agreeableness were significant predictors of mental health problems for the adolescents. Neuroticism ($\beta = .63$, $p < .001$) was positively associated with mental health problems, while agreeableness ($\beta = -.18$, $p < .01$) was negatively associated with mental health problems. The total model explained 52.6% of the variance in mental health problems ($F(7, 115) = 18.24$, $p < .001$).

In the 5 separate regression models that were computed for each personality trait, only 1 personality trait showed a significant interaction with acculturation: the interaction between acculturation and the trait of openness. Table 3 shows the findings for this regression. In the final model for this regression (step 3), length of residence in the U.S. had a significant relationship to mental health problems ($\beta = .29$, $p < .01$), explaining 4.2% of the variance in mental health problems. Acculturation was not a significant predictor when its direct effects were examined, although it showed a trend toward significance ($\beta = .85$, $p = .054$). The direct effect of the openness trait did achieve significance ($\beta = 2.18$, $p < .05$). Together, acculturation and openness explained an additional 3.4% of the variance in mental health problems (F change $= 2.21$, $p = .11$). Finally, the interaction between acculturation and openness accounted for an additional 4% of the variance in mental health problems (F change $= 5.63$, $\beta = -2.42$, $p < .05$). To better understand the interaction effect, correlations were computed between acculturation and mental health problems for adolescents with low versus high openness to experience. Youth were split at the mean for openness to determine these groups and partial correlations were computed that controlled for length of residence. Correlations indicated that for youth who were high in openness to experience, greater acculturation was associated with fewer mental health problems ($r = -.25$, $p < .05$). However, for youth who were low in openness to experience, there was no relationship at all between acculturation and mental health problems ($r = .004$, $p = .97$). The

overall model was significant, with all variables accounting for 12% of the variance in mental health problems for the Korean American adolescents (F (4, 120) = 3.97, p < .01).

Discussion

This study examined the relationship of acculturation and personality traits to mental health problems of Korean American adolescents as well as how personality might moderate any effect of acculturation on their mental health problems. Findings related to Aim 1 indicate that acculturation played a minimal role in predicting mental health problems of these youth, although length of residence was predictive of more problems. Specific personality traits were very strong predictors. When adolescents had greater neuroticism, they were at significantly higher risk for mental health problems. In contrast, adolescents whose dispositions were more agreeable were less likely to have mental health problems. Although personality traits did not appear to have a significant moderating effect overall, acculturation played a stronger role in predicting mental health problems among youth who were more open to experience than youth who were less open (Aim 2). While acculturation had no apparent effect among adolescents who were less open to experience, greater acculturation appeared to serve as a protective factor for youth who were more open to experience.

Acculturation and Mental Health

Our results differ from those of Yeh (2003) who found that greater acculturation was associated with fewer mental health problems for Korean American youth. However, findings reported by Cho & Bae (2005) are consistent with our results that acculturation is not a significant predictor of mental health problems for Korean American youth. Our results extend the findings of Cho & Bae (who studied internalizing problems only) to all types of mental health problems. It is important to note that we controlled for length of residence before

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accounting for any acculturation effect. Length of residence was strongly associated with acculturation in our preliminary analysis so it is possible that length of residence actually measured aspects of acculturation that were predicting mental health problems. Still, this would not explain why our preliminary bivariate correlations showed a significant relationship between length of residence and mental health but no significant relationship between acculturation and mental health. It will be important to better understand how length of residence per se may affect mental health problems differently than specific changes in language, attitudes or behaviors that are reflected in acculturation level.

Neuroticism and Mental Health

Our finding regarding neuroticism is consistent with results of a previous study for Chinese adolescent immigrants that showed a significant relationship between neuroticism and depression (Zhang, et al., 2010). Neuroticism is described as a trait of being more sensitive or vulnerable to the environment rather than feeling secure or confident in managing environmental demands (McCrae & Costa, 2007). Individuals who are higher on neuroticism tend to experience unpleasant emotions such as anger, anxiety or depression more easily, reflecting a general trait of emotional instability. Mangold and colleagues (2007) found that neuroticism was associated with higher levels of acculturative stress among Mexican immigrants. Adolescents in our sample who were more easily distressed and susceptible to negative emotions may also have experienced greater acculturative stress, increasing their vulnerability to mental health problems.

Agreeableness and Mental Health

Our finding regarding the link between agreeableness and fewer mental health problems has not been reported previously among immigrant youth. However, there is a body of literature indicating that agreeableness is associated with subjective well-being (Haslam, Whelan, &

Bastian, 2009), greater psychological resilience in adolescents (Fayombo, 2010), and better mental health outcomes among college students (Shirazi, Khan, & Ansari, 2012). A longitudinal study found that 8 year olds who were high on agreeableness had fewer behavior problems and had lower levels of depression and substance abuse 25 years later (Laursen, Pulkkinen, & Adams, 2002). The trait of agreeableness has been described as the ability to get along well with others, emphasizing cooperation, compassion, empathy, and control of one's negative emotions during interactions (McCrae & Costa, 2007; Ryckman, 2004). Other people may respond to adolescents with these characteristics more positively, regardless of their alignment with Korean or American values. Greater social acceptance may create a more supportive environment that contributes to better mental health for these Korean youth.

The Moderating Effect of Openness to Experience

The moderating effect of openness to experience was one of our most interesting findings. To our knowledge, we are the first study to report this result. As noted earlier, there was a negative relationship between acculturation and mental health problems for adolescents who were higher on the trait of openness to experience but there was no relationship between acculturation and mental health problems among adolescents who were lower on openness. Individuals who are more open to experience are described as having a greater appreciation for new and diverse experiences rather than traditional interests and familiar activities (McCrae & Costa, 2007). Thus, they would likely have a greater interest in exploring and learning about new cultures. For these adolescents, their greater alignment with the American culture was a protective factor for their mental health. However, less acculturation among these youth was associated with more mental health problems. Because of the high value they place on novelty

and continued growth, those who do not feel more fully acculturated may experience greater acculturative and emotional distress and resulting risk for mental health problems.

Implications for Research and Practice

Results of this study suggest that length of residence in the U.S. was associated with both acculturation and greater mental problems for Korean American adolescents. Length of residence is likely linked to generation status so future research should examine how generation status may moderate the relationship between acculturation and mental health problems. Most Korean American adolescents are second or higher generation; only about 30% are first generation (S. Cho & Bae, 2005; E. Kim & Cain, 2008; Yeh, 2003). In addition, it may be important to examine how acculturation and personality traits are related to specific mental health problems, with attention to whether they have a greater impact on internalizing problems such as anxiety and depression or externalizing problems such as rule-breaking behavior and aggression. Acculturation may influence some problems more than others. Similarly, it will be important to understand which mental health problems are most affected by neuroticism or lack of agreeableness. Lastly, research with a larger sample size is needed to more carefully examine the moderating effects of openness to experience. A larger sample size will help to detect other potential moderating effects as well.

Findings have implications for identification of youth at greater risk of mental health problems and for development of prevention programs targeted to adolescents with specific personality traits. Because neuroticism and less agreeableness may result in greater vulnerability to mental health problems, assessment of these risk factors should be considered as part of mental health evaluations of Korean American adolescents. For example, some brief questions about their personality traits can be asked by pediatric and adolescent clinicians during well-

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adolescent visits. In addition, interventions may be offered to provide additional support such as individual or group counseling, education, and family intervention for adolescents with these traits or to help them consider other options for how they might view and relate to others. Considering many Korean American adolescents go to Korean language schools or churches, these sites may offer good environments to deliver these interventions.

Limitations

Although this study enhances knowledge of factors that may influence mental health of Korean American youth, it has limitations. One limitation is its cross-sectional design that does not allow for interpretation of causality. It is impossible to determine whether levels of acculturation and personality traits of neuroticism and less agreeableness increase mental health problems, or whether mental health problems lead to the likelihood of being neurotic and less agreeable. Longitudinal studies are needed to determine whether personality traits measured early in life predict the development of mental health problems over time.

Another limitation is the use of a convenience sample from only one state in the western U.S. Findings may not be generalizable to the larger Korean American population in the U.S. Moreover, the convenience sample might not exhibit a representative distribution of mental health problems. A larger, probability-based sample from multiple sites nationwide is recommended for future research.

Lastly, all measures were self-report. While self-report is essential for understanding internally-based emotions and attitudes, its accuracy relies on the reliability of respondents' perceptions and recall. The use of a structured interview by a mental health professional would strengthen assessment of adolescent mental health problems in future research. The addition of parent report could also contribute to a more comprehensive assessment of adolescent behavior.

Table 1

Means and Correlations for Age, Length of Time in U.S., Acculturation, Personality Traits, and Total Mental Health Problems

	M (SD)/ range	1	2	3	4	5	6	7	8	9
1. Age	14.43 (2.09)/ 10-19	-	.50**	.17	.19*	-.11	.11	-.14	.05	.14
2. Length of residence in the U.S.	12.36 (4.14)/ 0-18		-	.54**	.19*	.02	.07	.10	.04	.19*
3. Acculturation	46.22 (5.50)/ 29-55			-	.02	.17	.20*	.14	.17*	.02
4. Neuroticism	25.62 (7.52)/ 9-46				-	-.09	.12	-.21*	-.16	.68**
5. Extraversion	30.91 (5.88)/ 19-44					-	.19*	.07	.15	-.08
6. Openness	28.53 (6.37)/ 12-48						-	.14	.04	.14
7. Agreeableness	31.55 (5.91)/ 10-43							-	.17	-.30**
8. Conscientiousness	29.10 (6.49)/ 12-48								-	-.12
9. Total problems	45.30 (23.65)/ 3-122									-

Note. * $p < .05$, ** $p < .01$.

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Table 2

Hierarchical Regression Analysis for Effects of Demographics, Acculturation, and Personality Traits on Mental Health Problems

Variable	B	$SE\ B$	β
Step 1			
Length of residence in the U.S.	1.18	.52	.20*
Step 2			
Length of residence in the U.S.	.74	.45	.13
Acculturation	-.20	.36	-.04
Neuroticism	1.96	.22	.63***
Extraversion	-.15	.27	-.04
Openness	.43	.26	.11
Agreeableness	-.74	.27	-.18**
Conscientiousness	.13	.25	.04

Note. R^2 = .04 for Step 1; R^2 change = .48 for Step 2 ($p < .001$).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Effects of Acculturation, Openness, and their Interaction on Mental Health Problems

Variable	B	SE B	β
Step 1			
Length of residence in the U.S.	1.18	.51	.20*
Step 2			
Length of residence in the U.S.	1.58	.60	.27**
Acculturation	-.71	.47	-.16
Openness	.58	.34	.15
Step 3			
Length of residence in the U.S.	1.67	.59	.29**
Acculturation	3.84	1.97	.85
Openness	8.38	3.31	2.18*
Acculturation x Openness	-.16	.07	-2.42*

Note. $R^2 = .04$ for Step 1; R^2 change = .03 for Step 2 ($p = .11$); R^2 change = .04 for Step 3 ($p < .05$).

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

CHAPTER IV.

CLOSE FRIENDSHIPS AND MENTAL HEALTH OF KOREAN AMERICAN

ADOLESCENTS: THE MODERATING EFFECT OF PERSONALITY

Background

Adolescents undergo a shift in their social affiliation from family to peers, becoming less emotionally dependent on their parents and building closer relationships with their friends. During this transition, the adolescent relies increasingly on peers for intimacy and social support and less on parents (Moretti & Peled, 2004). Close friends become significant attachment figures who can represent a secure base for the youth as they manage the emotional stress and challenge of adolescence (Meurling, Ray, & LoBello, 1999). Research has shown that peer relationship qualities are more strongly associated with adolescent attachment security than are parental relationship qualities, even during early and mid-adolescence (Allen & Miga, 2010). Yet the quality of an adolescent's friends can vary, either serving as a positive source of emotional support and caring or contributing to fears of rejection and psychological insecurity. Substantial evidence has accumulated to show that unreliable or insensitive attachment figures can reduce resilience in coping with stressful life events and contribute to mental health problems (Mikulincer, Shaver, & Berant, 2013). As key attachment figures during adolescence, close friends may have a major impact on the adolescent's mental health.

The influence of close friendships is of particular interest for Asian adolescents, including youth who are Korean American. Asian cultural values place a strong emphasis on connectedness to the family so the developmental shift in emotional attachment from parents to peers may be especially challenging for these youth (Yeh, 2003). Yet problems in achieving this developmental task could affect the quality of their peer relationships and have significant implications for their mental health (Johnson, et al., 2009; Pugh & Hart, 1999). Poor quality in the close friendships of Korean American adolescents could result in feelings of isolation or rejection that contribute to greater risk for mental health problems.

Only one study has examined the association between close peer relationships and the mental health of Korean American adolescents. Cho & Bae (2005) found that a poor relationship with one's friends was significantly associated with more internalizing problems (i.e. depression, anxiety, withdrawal) among Korean American adolescents. In support of this research, conflict with close friends significantly predicted higher levels of depression in a large sample of Canadian adolescents (Bosacki, Dane, & Marini, 2007). A few longitudinal studies have also found that decline in the quality of peer relationships was a significant factor in development of depressive symptoms (Mendle, Harden, Brooks-Gunn, & Graber, 2012), but it did not affect delinquent behaviors (Selfhout, Branje, & Meeus, 2008).

Two studies have shown a positive influence of supportive peer relationships on the mental health of adolescents. Chester, Jones, Zalot, and Sterrett (2007) found that African American youth who had better quality in their peer relationships had lower levels of depressive symptoms, less aggression, and fewer delinquent behaviors. McDonald, Bowker, Rubin, Laursen, and Duchene (2010) found that a supportive relationship with their same-sex best friend significantly predicted lower social anxiety in a group of ethnically diverse American adolescents.

Overall, these studies suggest that more positive, supportive peer relationships are an important protective factor for an adolescent's mental health. However, it is not known whether the quality of close friendships may be more or less important for the mental health of youth with certain personality traits. Personality traits are relatively stable patterns of behavior, thought and emotion that distinguish different people. These traits can determine an individual's need for relationships or the value they place on close relationships. In a seminal study, Asendorpf and Wilpers (1998) found that extraversion, agreeableness and conscientiousness were associated

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with more positive, supportive close relationships. Lopes, Salovey, and Straus (2003) found that college students who were extraverted were more satisfied with their relationships while students with the trait of neuroticism (i.e. emotionally sensitive and moody) were less satisfied. King and Terrance (2006) reported that college students who had passive-aggressive, self-defeating, and borderline personality traits tended to view their closest friendship in more negative ways, suggesting poorer friendship quality. Lastly, Lincoln (2008) examined the mediating role of social support from relatives and friends on the relationship between personality traits and psychological distress. Investigators found that social support mediated the influence of personality traits on psychological distress differently for individuals with traits of extraversion versus neuroticism. Although none of these studies has addressed how personality traits may moderate the effect of close relationships on mental health of adolescents, research to date does implicate differences in the potential relationships of individuals who possess varied traits. It is possible that these traits may moderate the influence of close friendships on adolescents' mental health.

Research Aims

The purpose of this study was to advance knowledge regarding the influence of close friendships on the mental health of Korean American adolescents. An additional goal was to better understand whether any effect of close friendships on mental health might differ based on personality traits of the adolescents. The specific aims were 1) to determine whether the quality of the adolescents' closest friendship was associated with the mental health of Korean American adolescents, and 2) to determine whether specific personality traits would moderate any association between the quality of their closest friendship and mental health problems of these youth.

Method

Participants and Setting

The sample included Korean American adolescents who were recruited from Korean churches, Korean language schools, Korean shopping malls and restaurants, mental health centers serving Asian and Pacific Islander communities, and websites for the Korean community in California. Inclusion criteria were: 1) 10-19 years old, 2) self-identified as Korean American, 3) able to communicate in Korean or in English. Adolescents and/or families who could not understand the purpose of the study or the informed consent were excluded.

Procedure

The study was approved by the Committee on Human Research (CHR) of the University of California, San Francisco. If an adolescent was interested in participating, a packet of materials (including self-report measures and an informed written consent for both the adolescent and the parent) was sent. Participants returned completed materials to the researcher. Follow-up phone calls or e-mail occurred when necessary to gather missing information. If the participant received scores for their mental health problems indicating a level of clinical concern, the researcher discussed the findings with the parent and adolescent and gave them a list of mental health service resources. The recruitment period was from January 2013 through December 2014.

Measures

Demographic Questionnaire. A 6-item demographic questionnaire was used. The items consisted of gender, age, father and mother's educational level, adequacy of family income, and length of residence in the U.S.

Relationship Quality Questionnaire (RQQ). The Relationship Quality Questionnaire (RQQ) was used to measure the quality of the adolescent's closest friendship (Meurling, et al.,

1999). It is a self-report, 21-item, 5-point Likert scale that asks the youth to assess how true

certain characteristics are about their relationship with their best friend. Examples of

characteristics about the relationship are: the friend makes them feel good about their ideas,

gives them advice when figuring things out, and makes them feel important and special; they tell

each other their problems, and they get over arguments quickly. Higher scores indicate better

quality of the relationship with the close friend, suggesting that the friend serves as a greater

source of emotional support and psychological security. The RQQ is a modified version of the

Friendship Quality Questionnaire (FQQ) developed by Parker and Asher (1993). The measure

has seven subscales derived from factor analysis: companionship and recreation, conflict and

betrayal, conflict resolution, help and guidance, intimate exchange, validation and caring, and

exclusivity (Meurling, et al., 1999). The RQQ has good reliability ranging from .84 to .89 for the

Cronbach's alpha of the total scale score. The Cronbach's alpha with this sample of Korean

American adolescents was .86. The total score RQQ was used in the analyses. Although the

RQQ has not been used extensively with Asian American adolescents, these findings suggest that

the RQQ is a reliable and valid instrument for measuring the quality of close friendships of

Korean American adolescents.

      NEO Five-Factor Inventory-3. The NEO Five-Factor Inventory-3 (NEO-FFI-3) is a

self-report measure, using 4-point Likert scales to measure 5 personality traits: Neuroticism (N;

(emotional instability, distress in response to stressors), Extraversion (E; sociability, energy,

positive emotionality), Openness to Experience (O; appreciation of personal emotion, curiosity,

independent judgment), Agreeableness (A; trustfulness, altruism, cooperativeness), and

Conscientiousness (C; goal directed, self-control, organization) (McCrae & Costa, 2007). These

traits reflect the most widely accepted model of personality (Malouff, et al., 2005; McCrae &

Costa, 2008). The subscale for each trait contains 12-items. The factor/trait structure was established originally with a sample of 500 adolescents, including about 8% Asian Pacific Islander adolescents. All five factor/trait scores were used in this study. In the original testing of the measure, Cronbach's alpha scores for the subscales ranged from .72 for Agreeableness to .83 for Conscientiousness. Subscale alphas for our sample of adolescents were .80 for Neuroticism, .75 for Extraversion, .75 for Openness, .72 for Agreeableness, and .81 for Conscientiousness. The NEO-FFI-3 is considered to be a reliable and valid measure for Korean American adolescents' personality traits based on its psychometric testing.

Youth Self Report. The Youth Self Report (YSR) was our measure of mental health problems. It is a self-report questionnaire developed for youth 11-18 years of age to measure their problematic feelings, thoughts, and behaviors during the past 6 months (Achenbach & Rescorla, 2001). The YSR contains 112 items, each on a 3-point Likert scale. The higher the youth's score on the scales, the greater the psychological distress the youth is experiencing. The YSR has eight empirically-based syndrome scales: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior. These are then calculated into composite scores for Internalizing Problems, Externalizing Problems, and Total Problems. The Total Problems score was used for our analyses.

Studies have shown excellent Cronbach's alpha scores for the Total Problems scale (α = .93-.95) (Achenbach & Rescorla, 2001; Ebesutani, et al., 2011; Ivanova, et al., 2007; Rescorla, et al., 2007). The Cronbach's alpha score for the Total Problems scale with this sample of Korean American adolescents was .94. Content validity, criterion-related validity, and concurrent validity of the YSR have been established (Achenbach & Rescorla, 2001; Ebesutani, et al., 2011;

van Lang, et al., 2005). The YSR is regarded as a reliable and valid measure to assess mental health problems of Korean American adolescents, considering its excellent reliabilities and validity tested in about 40 countries including Korea (Ivanova, et al., 2007; Rescorla, et al., 2007).

Data Analysis

Descriptive statistics were used to examine sample characteristics, including frequency and percent for gender, father and mother's educational level, and adequacy of family income, and means and standard deviations (*SDs*) for age and length of residence in the U.S. Hierarchical linear regression analyses were used to examine the aims. Before examining the aims, assumptions for use of linear regression were tested. In addition, preliminary relationships were computed between the adolescents' mental health problems and all demographic and independent variables. Pearson's correlations were computed for continuous variables and t-tests were used for categorical variables. The distribution for family income and educational level of parents warranted creation of dichotomous groupings for these categorical variables. To examine Aim 1, demographic variables showing a significant relationship to mental health problems were included in the regression analysis at the first step to control for their effects. In the second step, the RQQ score for quality of the close friendship was entered. To examine Aim 2, five separate hierarchical regressions were computed initially to examine the unique contribution of each personality trait and its interaction to quality of the close friendship. In these models, significant demographic variables were entered at the first step, the score for quality of the friendship and one of the personality traits were entered at the second step, and the interaction between friendship quality and the trait was entered at the third step. Significance level was set at an alpha level of .05 in all analyses. SPSS version 22 was used to compute statistical procedures.

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Results

The sample included 138 adolescents. Fifty seven participants (41%) were males and 81 were females (59%). The mean age of the participants was 14.43 years (10-19 years, $SD = 2.09$). Their length of residence in the U.S. ranged from less than 1 to 18 years, with a mean score of 12.36 years ($SD = 4.14$). Approximately 71% of fathers and 66% of mothers had completed either college or graduate studies. About 61% of the participants reported that "their family had enough money but no extra" and 36% reported that "they had more money than they need."

Means and correlations for study variables with continuous scores are shown in Table 1. Length of residence in the U.S. had a high correlation with age and a low but significant correlation with mental health problems. The personality trait of neuroticism had a high positive correlation with mental health problems. The personality trait of agreeableness had a negative moderate correlation with mental health problems. No significant correlations with mental health problems were found for age or with the personality traits of extraversion, openness, and conscientiousness. In addition, preliminary t-tests indicated no significant differences in mental health problems based on gender, father and mother's educational level, or family income. Quality of the adolescents' closest friendship was associated positively with 3 personality traits: extraversion, agreeableness and conscientiousness but it was not associated with the adolescents' mental health problems. Based on preliminary analyses, length of residence was the only demographic variable included in regression analyses for the aims.

Table 2 presents findings for aim 1. In the final model for this regression (step 2), length of residence in the U.S. had a significant relationship to mental health problems ($\beta = .22, p < .05$), explaining 4.1% of the variance in mental health problems. Quality of the closest friendship was

not a significant predictor ($\beta = -.11$, $p = .21$). The total model explained 5.3% of the variance in mental health problems ($F(2, 123) = 3.44$, $p < .05$).

In the 5 separate regression models that were computed for each personality trait, only 1 personality trait showed a significant interaction with quality of the closest friendship: the interaction between friendship quality and the trait of agreeableness. Table 3 shows the findings for this regression. In the final model for this regression (step 3), length of residence in the U.S. had a significant relationship to mental health problems ($\beta = .25$, $p < .01$), explaining 4.6% of the variance in mental health problems. Both friendship quality ($\beta = -1.09$, $p < .01$) and the agreeableness trait ($\beta = -1.33$, $p < .01$) were significant predictors when their direct effects were examined. Together, friendship quality and agreeableness explained an additional 9.5% of the variance in mental health problems (F change $= 6.54$, $p < .01$). Finally, the interaction between friendship quality and agreeableness accounted for an additional 4.6% of the variance in mental health problems (F change $= 6.66$, $\beta = 1.62$, $p < .05$). To better understand the interaction effect, correlations were computed between friendship quality and mental health problems for adolescents with low versus high agreeableness. Youth were split at the mean for agreeableness to determine these groups and partial correlations were computed that controlled for length of residence in the U.S. Correlations indicated that for youth who were low in agreeableness, better quality of the relationship with their best friend was associated with fewer mental health problems ($r = -.33$, $p < .05$). However, for youth who were high in agreeableness, there was no significant relationship between friendship quality and mental health problems ($r = .11$, $p = .36$). The overall model was significant, with all variables accounting for 18.8% of the variance in mental health problems for the Korean American adolescents ($F(4, 117) = 6.76$, $p < .001$).

Discussion

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This study examined the association between quality of Korean American adolescents' relationships with their closest friends and their mental health problems as well as the ways in which their personality traits might moderate any effect of the close friendship on their mental health. Findings related to Aim 1 indicate that quality of the friendship did not predict mental health problems for these youth overall but that length of residence in the U.S. did predict more problems. However, one personality trait (agreeableness) did moderate the relationship between friendship quality and adolescent mental health, indicating the importance of this relationship for a specific group of youth (Aim 2). Adolescents who had less agreeable personalities were at greater risk for mental health problems by virtue of their personality trait. However, the quality of the relationship with their best friend served as a protective factor, reducing their mental health risk. In contrast, the quality of their closest friendship did not influence the mental health problems of adolescents who had more agreeable personalities in any way. For this group, their trait of agreeableness itself reduced their risk for mental health problems. The four other personality traits studied did not demonstrate a significant moderating effect between close friendships and mental health.

Friendship Quality and Mental Health

Our findings regarding the lack of any influence of close peer relationships on mental health problems for our entire sample are in conflict with results from a number of studies that showed a significant relationship between poor quality of peer relationships and depression, social anxiety, and internalizing problems (Bosacki, et al., 2007; Chester, et al., 2007; S. Cho & Bae, 2005; McDonald, et al., 2010; Mendle, et al., 2012). However, our findings are consistent with results from 2 studies showing that the quality of close friendships was not a significant factor in delinquency (Selfhout, et al., 2008) or in development of overall mental health

problems (Okello, Nakimuli-Mpungu, Musisi, Broekaert, & Derluyn, 2014). It is possible that the quality of close friendships plays a greater role in predicting internalizing problems such as depression and anxiety than for externalizing problems. Because we looked at total mental health problems of the adolescents, this differential effect may have been missed.

Agreeableness and Mental Health

To our knowledge, our finding regarding the potential impact of agreeableness as a predictor and moderator of mental health of Korean American adolescents has never been reported. However, there is a body of literature indicating that agreeableness is associated with subjective well-being (Haslam, et al., 2009), greater psychological resilience in adolescents (Fayombo, 2010), and better mental health outcomes among college students (Shirazi, et al., 2012). A longitudinal study found that 8 year olds who were high on agreeableness had fewer behavior problems and had lower levels of depression and substance abuse 25 years later (Laursen, et al., 2002). The trait of agreeableness has been described as the ability to get along well with others, emphasizing cooperation, compassion, empathy, and control of one's negative emotions during interactions (McCrae & Costa, 2007; Ryckman, 2004). In contrast, individuals low on agreeableness are typically described as antagonistic, impulsive and irritable, resulting in greater vulnerability to social rejection (Bierman, 2003). Research indicates that adolescents who are rejected by their peers are more likely to be lonely, and to have lower self-esteem and more internalizing problems (Smetana, Campione-Barr, & Metzger, 2006). For less agreeable individuals, having a close friend who can enhance their sense of belonging, provide emotional security or buffer their less socially acceptable behavior with others may be especially important for their ability to cope successfully and manage ongoing challenges in their lives. Adolescents who describe feeling better about the quality of their close friendships have shown greater

feelings of belongingness and decreased loneliness in previous research (Chen, 2009). This type of supportive close relationship may be less important for the mental health of adolescents whose agreeable personality more naturally increases their likelihood of being well-received by others and achieving social success.

These findings may have particular salience for Asian American adolescents who experience strong expectations within their culture to embrace Asian family values of interpersonal harmony, interdependence, and conformity to family and social norms (Greenfield, et al., 2003; B. S. K. Kim, et al., 2001). Korean American youth whose less agreeable personalities do not comply with these values may experience unique psychological conflicts that erode their mental health. Because of this increased vulnerability, emotional support and caring from a close friend may be a more essential mental health resource.

Limitations and Future Research

Limitations of the study include its cross-sectional design. The association between quality of close friendships and adolescent mental health may look different over time. Longitudinal studies are needed to determine whether the quality of close friendships measured early in life predict the development of mental health problems as a child develops. In addition, our measure of the quality of peer relationships only examined the adolescents' closest friendship. Measures that assess other peer relationships may improve the understanding of peer effects on mental health. Because our measure of the quality of peer relationships has not been extensively studied in Korean American adolescents, it needs more psychometric testing. Also, the use of a structured clinical interview that does not depend solely on self-report would strengthen the assessment of adolescent mental health problems. Lastly, findings from our

convenience sample may not be generalizable to the larger Korean American population in the U.S. or to other cultural groups, including other Asian American adolescents.

Findings of this study have a number of implications for future research. Emotional support and shared intimacy with a close friend may influence some mental health problems more than others. Therefore, it will be important to examine how the quality of a close friendship is related to specific problems, especially whether it has a greater impact on internalizing problems such as anxiety and depression or externalizing problems such as rule-breaking behavior and aggression. Research with a larger sample is also needed to more carefully examine the moderating effects of agreeableness. A larger sample size will help to detect potential moderating effects of other personality traits as well. Because length of residence in the U.S. predicted more mental health problems for the youth, future research should examine in detail how it may be influencing these problems.

Clinical Implications

Findings have implications for identification of youth at greater risk for mental health problems, specifically adolescents who show evidence of more antagonistic and irritable approaches with their peers or families and who have few close friends whom they can turn to for support and caring. Although this study did not find a significant relationship between quality of an adolescent's closest friendship and mental health problems overall, friendship quality was a protective factor for the mental health of adolescents who had less agreeable personalities. Assessment of these risk factors can be included in pediatric clinics and as part of community-based prevention strategies. Support groups may be an effective approach to working with these youth to enhance their mental health.

Table 1

Means and Correlations for Age, Length of Time in U.S., Close Friendship Quality, Personality Traits, and Total Mental Health Problems

	M (SD)	1	2	3	4	5	6	7	8	9
1. Age	14.43 (2.09)	-	.50**	-.14	.19*	-.11	.11	-.14	.05	.14
2. Length of residence in the U.S.	12.36 (4.14)		-	.14	.19*	.02	.07	.10	.04	.19*
3. Friendship quality	73.38 (14.84)			-	.01	.22*	-.06	.19*	.29**	-.08
4. Neuroticism	25.62 (7.52)				-	-.09	.12	-.21*	-.16	.68**
5. Extraversion	30.91 (5.88)					-	.19*	.07	.15	-.08
6. Openness	28.53 (6.37)						-	.14	.04	.14
7. Agreeableness	31.55 (5.91)							-	.17	-.30**
8. Conscientiousness	29.10 (6.49)								-	-.12
9. Total problems	45.30 (23.65)									-

Note. * $p < .05$, ** $p < .01$.

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Table 2

Hierarchical Regression Analysis for Effects of Demographics and Close Friendship Quality on Mental Health Problems

Variable	B	$SE\ B$	β
Step 1			
Length of residence in the U.S.	1.21	.53	.20*
Step 2			
Length of residence in the U.S.	1.30	.53	.22*
Close friendship quality	-.18	.15	-.11

Note. R^2 = .04 for Step 1; R^2 change = .01 for Step 2 (p = .21).

* $p < .05$.

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Table 3

Effects of Close Friendship Quality, Agreeableness, and their Interaction on Mental Health Problems

Variable	B	$SE\ B$	β
Step 1			
Length of residence in the U.S.	1.28	.53	.22*
Step 2			
Length of residence in the U.S.	1.51	.52	.25**
Close friendship quality	-.10	.14	-.06
Agreeableness	-1.19	.35	-2.94**
Step 3			
Length of residence in the U.S.	1.52	.50	.25**
Close friendship quality	-1.78	.67	-1.09**
Agreeableness	-5.37	1.66	-1.33**
Close friendship quality x Agreeableness	.05	.02	1.62*

Note. R^2 = .05 for Step 1; R^2 change = .10 for Step 2 ($p < .01$); R^2 change = .05 for Step 3 ($p < .05$).

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

CHAPTER V.

DISCUSSION

Overall Study Findings

This study examined 1) the prevalence of various mental health problems among Korean American adolescents, considering gender and age differences; 2) the degree to which acculturation, the quality of peer relationships, and personality traits are associated with the mental health problems of Korean American adolescents; and 3) whether the personality traits of Korean American adolescents moderate any effect of acculturation and peer relationship quality on their mental health problems.

Findings for Aim 1 indicate that approximately 18% of Korean American adolescents in this sample from the western United States experienced clinically significant mental health problems. Most of these problems appeared to be of the internalizing type where scores for almost 23% of the youth were in the clinical range; that is, their scores were comparable to youth who are being treated for mental health problems in clinical settings. Anxiety/depression was the primary mental health problem of these youth, with 20% falling into either the clinical or borderline ranges. 19% were in the clinical or borderline ranges for withdrawal/depression. The youth also experienced high levels of social problems, with almost 19% in the clinical or borderline ranges. In each of these areas, Korean American adolescents in this study had more mental health problems than the norm when compared to typical adolescents who had not been referred for psychiatric care (Achenbach & Rescorla, 2001). Their scores for thought problems and attention problems were also slightly higher than established norms. However, scores for somatic complaints, rule-breaking behavior, and aggressive behavior as well as the composite score for externalizing problems were comparable to the norms identified for nonreferred children in the U.S.

Findings related to Aim 2 indicate that acculturation and the quality of close friendships played a minimal role in predicting mental health problems of Korean American adolescents. Our results differ from those of Yeh (2003) who found that greater acculturation was associated with fewer mental health problems for Korean American youth. However, findings reported by Cho & Bae (2005) are consistent with our results that acculturation is not a significant predictor of mental health problems for Korean American youth. Our results extend the findings of Cho & Bae (who studied internalizing problems only) to all types of mental health problems. Our findings regarding the lack of any influence of close peer relationships are in conflict with results from a number of studies that showed a significant relationship between poor quality of peer relationships and depression, social anxiety, and internalizing problems (Bosacki, et al., 2007; Chester, et al., 2007; S. Cho & Bae, 2005; McDonald, et al., 2010; Mendle, et al., 2012). However, our findings are consistent with results from 2 studies showing that the quality of close friendships was not a significant factor in delinquency (Selfhout, et al., 2008) or in development of overall mental health problems (Okello, et al., 2014). It is possible that the quality of close friendships plays a greater role in predicting internalizing problems such as depression and anxiety than for externalizing problems. Because we looked at total mental health problems of the adolescents, this differential effect may have been missed.

Findings for Aim 2 regarding the effect of personality traits suggest that they are very strong predictors of mental health problems for Korean American adolescents. When adolescents had greater neuroticism, they were at significantly higher risk for mental health problems. In contrast, adolescents whose dispositions were more agreeable were less likely to have mental health problems.

Our finding regarding neuroticism is consistent with results of a previous study for Chinese adolescent immigrants that showed a significant relationship between neuroticism and depression (Zhang, et al., 2010). Neuroticism is described as a trait of being more sensitive or vulnerable to the environment rather than feeling secure or confident in managing environmental demands (McCrae & Costa, 2007). Individuals who are higher on neuroticism tend to experience unpleasant emotions such as anger, anxiety or depression more easily, reflecting a general trait of emotional instability. Mangold and colleagues (2007) found that neuroticism was associated with higher levels of acculturative stress among Mexican immigrants. Adolescents in our sample who were more easily distressed and susceptible to negative emotions may also have experienced greater acculturative stress, increasing their vulnerability to mental health problems.

Our finding regarding the link between agreeableness and fewer mental health problems has not been reported previously among immigrant youth. However, the trait of agreeableness implies that an individual is more cooperative and friendly by nature, tending to trust others rather than approaching them with suspicion or antagonism. Other people may respond to adolescents with these characteristics more positively, regardless of their alignment with Korean or American values. Greater social acceptance may create a more supportive environment that contributes to better mental health for these Korean youth.

Findings related to Aim 3 indicate that 2 personality traits had a significant moderating effect. First, an adolescent's openness to experience moderated the effect of acculturation on mental health problems. While acculturation had no apparent effect among adolescents who were less open to experience, greater acculturation appeared to serve as a protective factor for youth who were more open to experience. To our knowledge, we are the first study to report this result. Individuals who are more open to experience are described as having a greater appreciation for

new and diverse experiences rather than traditional interests and familiar activities (McCrae &

Costa, 2007). Thus, they would likely have a greater interest in exploring and learning about new

cultures. For these adolescents, their greater alignment with the American culture was a

protective factor for their mental health. However, less acculturation among these youth was

associated with more mental health problems. Because of the high value they place on novelty

and continued growth, those who do not feel more fully acculturated may experience greater

acculturative and emotional distress and resulting risk for mental health problems.

The second moderating effect was for the personality trait of agreeableness. While the

quality of the adolescent's closest friendship had no apparent effect among adolescents who were

more agreeable, a more emotionally supportive relationship with their best friend appeared to

serve as a protective factor for youth who were less agreeable. Individuals low on agreeableness

are typically described as antagonistic, impulsive and irritable, resulting in greater vulnerability

to social rejection (Bierman, 2003). Research indicates that adolescents who are rejected by their

peers are more likely to be lonely, and to have lower self-esteem and more internalizing

problems (Smetana, et al., 2006). For less agreeable individuals, having a close friend who can

enhance their sense of belonging, provide emotional security or buffer their less socially

acceptable behavior with others may be especially important for their ability to cope successfully

and manage ongoing challenges in their lives. Adolescents who describe feeling better about the

quality of their close friendships have shown greater feelings of belongingness and decreased

loneliness in previous research (Chen, 2009). This type of supportive close relationship may be

less important for the mental health of adolescents whose agreeable personality more naturally

increases their likelihood of being well-received by others and achieving social success.

Findings regarding agreeableness may have particular salience for Asian American adolescents who experience strong expectations within their culture to embrace Asian family values of interpersonal harmony, interdependence, and conformity to family and social norms (Greenfield, et al., 2003; B. S. K. Kim, et al., 2001). Korean American youth whose less agreeable personalities do not comply with these values may experience unique psychological conflicts that erode their mental health. Because of this increased vulnerability, emotional support and caring from a close friend may be a more essential mental health resource.

Recommendations for Future Research

Further research is needed using a multi-method approach to assessing mental health with more representative samples of youth. Studies to further examine the prevalence of attention and thought problems are also needed, including assessments to clarify whether the youth are at risk for particular psychiatric disorders such as ADHD or Obsessive Compulsive Disorder.

Length of residence is likely linked to generation status so future research should examine how generation status may moderate the relationship among acculturation, peer relationship quality, and mental health problems. In addition, it may be important to examine how acculturation, peer relationship quality, and personality traits are related to specific mental health problems, with attention to whether they have a greater impact on internalizing problems such as anxiety and depression or externalizing problems such as rule-breaking behavior and aggression. Similarly, it will be important to understand which mental health problems are most affected by neuroticism or lack of agreeableness.

Lastly, research with a larger sample size using instruments that have been tested in diverse populations to determine their cultural appropriateness is needed to more carefully

examine the moderating effects of personality traits of openness to experience and agreeableness. A larger sample size will help to detect other potential moderating effects as well.

Clinical Implications

Findings have implications for assessment of mental health problems, for identification of youth at greater risk of mental health problems, and for development of prevention programs targeted to adolescents with specific personality types. Because of the high incidence of anxiety and depressive symptoms found in this study, pediatric and adolescent clinicians would be wise to screen for depression and anxiety as part of their ongoing care of Korean American adolescents. Symptoms of these problems may not manifest overtly, especially among Korean American youth who have been socialized as part of their culture to show positive emotions in their interactions with others. Screening programs during well-adolescent visits can be devised. Prevention programs also need to be developed in Korean American communities, including awareness among families of symptoms associated with depression and anxiety as well as resources for referral of youth who may need more comprehensive assessment and treatment. In addition, school-based prevention programs can be developed especially for schools with large proportion of Korean American adolescents.

Because neuroticism and less agreeableness may result in greater vulnerability to mental health problems, assessment of these risk factors should be considered as part of mental health evaluations of Korean American adolescents. In addition, interventions may be offered to provide additional support to adolescents with these traits or to help them consider other options for how they might view and relate to others. Considering many Korean American adolescents go to Korean language schools or churches, these sites may offer good environments to deliver these interventions.

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Study Limitations

Because participants were recruited in California, the findings may not be generalized to Korean Americans throughout the U.S. In addition, 70% of the sample were second or higher generation immigrants whose parents were well-educated. Findings may be different for adolescents who have immigrated more recently or are from lower socioeconomic backgrounds. However, our sample characteristics are consistent with those in other studies of Korean Americans (S. Cho & Bae, 2005; Passel, 2011). In addition, the convenience sample may have not included a broad or representative distribution of mental health problems. A larger, probability-based sample from multiple sites nationwide is recommended for future research. This would also enable greater power to detect potential moderating effects.

Another limitation of the study is its cross-sectional design that does not allow for interpretation of causality. It is impossible to know from the findings whether lower levels of acculturation, lack of a supportive close friend, or personality traits of neuroticism and less agreeableness actually increased mental health problems for certain youth, or whether mental health problems led to lower levels of acculturation, poor friendships, and the likelihood of being neurotic and less agreeable in Korean American adolescents. Longitudinal studies are needed to determine whether these variables measured early in life predict the development of mental health problems over time.

Lastly, all measures were self-report. While self-report is essential for understanding internally-based emotions and attitudes, its accuracy relies on the reliability of respondents' perceptions and recall. The use of a structured interview by a mental health professional would strengthen assessment of adolescent mental health problems in future research. The addition of parent report could also contribute to a more comprehensive assessment of adolescent behavior.

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