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The Role of an Intergenerational Acculturation Gap in the Adjustment of Immigrant Youth: A Meta-Analysis

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To the Graduate Council:

I am submitting herewith a dissertation written by Min-Jung Jung entitled "The Role of an Intergenerational Acculturation Gap in the Adjustment of Immigrant Youth: A Meta-Analysis." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Child and Family Studies.

Brian K. Barber, Major Professor

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The Role of an Intergenerational Acculturation Gap in
the Adjustment of Immigrant Youth: A Meta-Analysis

A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Min-Jung Jung
December 2013

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Dedication

This dissertation is dedicated to my family, who supported and encouraged me throughout this long journey and who made this achievement possible.

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I wish to thank all of those who have encouraged, supported, and helped me in completing my degree. First, the members of my dissertation committee have my utmost appreciation. I am ever grateful to my advisor and dissertation chair, Dr. Brian Barber, for his generous mentorship during a difficult transition in graduate school and for helping me to gain confidence in my abilities as an independent researcher. I also thank the members of my dissertation committee: Dr. Heidi Stolz, who inspired me to think more practically about how this study could benefit immigrant families and communities; Dr. Hillary Fouts, who provided deep insight into cultural diversity in families and who pushed me to have a cross-cultural view; Dr. Elizabeth Johnson, who gave me a broader developmental understanding of immigrant youth; and Dr. John Orme, who gave me great guidance and advanced my statistical knowledge.

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Abstract

Rapidly increasing numbers of immigrant families with children in the U.S. have led researchers to study the dynamics of immigrant families, focusing particularly on discrepancies in the acculturation levels of parents and children. Many studies have found such an acculturation gap to be associated with problematic functioning, such as conflicts between family members and poor adjustment outcomes among immigrant youth. Other studies have found no such associations. In order to clarify this association, this dissertation conducted a meta-analysis of available studies. Literature searches identified 63 qualifying studies, in which 117 separate effect sizes were reported.

Concentrating on main effects, the findings of the meta-analysis revealed small but significant average effects between an acculturation gap and each of three dependent variables: youth internalizing problems ($r=.1$), youth externalizing problems ($r=.06$), and family conflict ($r=.15$). Thus, the higher the acculturation gap, the higher the level of individual and family difficulty. Next, a series of moderator analyses were conducted to test the degree to which these main effects might be contingent on a variety of study and personal characteristics, as well on methodological features of how an acculturation gap is perceived, measured, and calculated.

No significant moderation effects were found for age or country of origin. There were not adequate studies that reported separate effect sizes to test for youth gender differences. For internalizing problems only, the mean effect was higher for studies published in journals than in dissertations. The only significant finding from analyses using methodological features as moderators was that studies that assessed an acculturation gap in the specific domain of *cultural values* had a higher mean effect than studies that assessed the acculturation gap with a global acculturation index.

In sum, the study confirms that within the currently available empirical literature, an acculturation gap between immigrant parents and children in North America is significantly associated with poorer family and individual youth functioning. These effects are systematic in that they held regardless of differences in various individual and study characteristics. Implications for application and research refinement are discussed.

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Chapter I

Introduction

Immigrants comprise a substantial part of the current U.S. population, with nearly 13% of U.S. citizens reporting that they were born outside of the United States (U.S. Census Bureau, 2010). Approximately 20% of U.S. children live with at least one immigrant parent, a number that has increased by almost 50% since 1990 (The Urban Institute, 2010). As the number of immigrant families with children has increased dramatically, many studies have examined intergenerational discrepancies in the degree of acculturation that has been achieved by parents and their children. Previous studies have shown that while adults tend to retain their original culture, slowing their acculturation process, immigrant children acquire the values and/or behaviors of the host culture faster than their parents (Liebkind, 1996; Szapocznik & Williams, 2000). Importantly, when children's adaptation or immersion to American culture—specifically learning English—exceeds that of their parents, an acculturation gap, or a dissonant acculturation pattern, can surface between parents and children that can affect family relationships (Berry, Phinney, Sam, & Vedder, 2006; Portes & Rumbaut, 2001). This discrepant acculturation level may cause language and communication difficulties among family members, leading to a loss of parental authority and decreased understanding of the parents by the children. Moreover, parents may demand that their children maintain home country cultural values such as familism and cohesion. Children may respond with resistance or refusal to accept parental cultural values, further creating family conflicts and adjustment problems in children (Costigan & Dokis, 2006; Le & Stockdale, 2008; Luo & Wiseman, 2000).

Theoretically, the *acculturation gap-distress model* suggests that a parent-child acculturation gap can lead to increased family conflict and child and youth maladjustment (i.e.,

internalizing and externalizing problems, poor physical health, and lower academic achievement).

The model has guided several studies and theories on acculturation gap (Buki, Ma, Strom, & Strom, 2003; Hwang, 2006; Santisteban et al., 2003; Szapocznik & Kurtines, 1993; Szapocznik & Williams, 2000; Weaver & Kim, 2008; Zhou, 2001).

Controversies over the Effect of an Acculturation Gap

In fact, studies on this topic have found inconsistent results, with some finding that an acculturation gap is unrelated to child and youth adjustment outcomes and intergenerational conflicts (Fuligni, 1998; Lau et al., 2005; Lim, Yeh, Liang, Lau, & McCabe, 2009; Pasch et al., 2006; Tardif-Williams & Fisher, 2009). For example, Pasch and colleagues (2006) examined the effect of generational differences in acculturation on parent-adolescent conflict and adolescent adjustment in Mexican American families and found that families who exhibited a higher acculturation gap did not report higher parent-adolescent conflict or adolescent adjustment problems. In other words, while the acculturation gap-distress model has been widely accepted, the model has not been consistently supported empirically.

In a thematic review of studies of the acculturation gap-distress model, Telzer (2010) concluded that “acculturation gaps can have *diverse* [emphasis added] effects on family functioning and youth adjustment,” and “a construct as multidimensional as acculturation gaps will not be uniformly or invariably positive or negative” (p. 337). In addition, several review articles suggested that an acculturation gap (e.g. particularly when the child is more acculturated to the host culture and parents more acculturated to the native culture) does not appear to be related to adolescent maladjustment (G. Chung, Flook, & Fuligni, 2009; Fuligni, 2012). Assertions such as these make it important to establish if the association between an acculturation gap and youth maladjustment holds empirically. Furthermore, in so doing,

disentangling the complexity of acculturation gap would help understand why these inconsistent findings occur.

Several researchers have attempted to answer why the empirical findings are inconsistent. M. Kim and Park (2011), for example, suggested that such inconsistent results might be explained by at least three factors: (a) conceptualization and measurement of the acculturation gap, (b) characteristics of the particular immigrant population, and (c) roles of different moderators (i.e. communication, parenting strategy, etc.) in the relationship between the acculturation gap and outcomes. Moreover, several reviews have highlighted the importance of acknowledging the complex construct of acculturation and clarifying the issue of measurement in order to understand ambivalent results in the current literature on this topic (Costigan, 2010; Phinney, 2010; Suinn, 2010; Telzer, 2010).

Particularly, there are two issues to be discussed in terms of the construct of acculturation. First, should the acculturation gap be measured through unidimensional or bidimensional models? In a unidimensional model, individuals adopt host-culture behaviors and values while simultaneously discarding the values and behaviors of their culture of origin. Consequently, successful acculturation would be viewed as the disappearance of the ethnic culture and absorption into the mainstream culture. This is otherwise known as the assimilation model that was suggested by early acculturation researchers to explain the acculturation process of European immigrants (Berry & Sam, 1996). Consequently, a unidimensional model mainly captures an acculturation gap to the host culture by reporting whether the child is more acculturated than the parents (Telzer, 2010).

In contrast, a bidimensional view of acculturation considers an orthogonal relationship between acculturation to one's culture of origin and the host culture. Therefore, acculturation to

the host society does not necessarily mean discarding the values and behavior from the culture of origin. It suggests four potential types of gaps. Thus, regarding acculturation to the host culture, there are two potential gaps: parents high, children low; and parents low and children high. The same two gaps could exist regarding acculturation to the culture of origin (Birman, 2006a; Telzer, 2010).

Second, discrete domains of acculturation need to be considered in order to make sense of the current literature. Specifically, acculturation occurs in multiple domains—such as language, choice of food, cultural values, etc.—but it does not necessarily proceed with the same pace across these domains. For example, the acculturation level for cultural behavior, like language skill, may exceed the acculturation level in a cultural value, like ethnic identity (B. S. Kim, Atkinson, & Yang, 1999; Szapocznik & Kurtines, 1980). In other words, there may be gaps in acculturation between parents and children in one or more domains, but not other domains. Thus, it is important to examine the association between acculturation gaps and child outcomes according to specified domains.

In addition to acknowledging the dimensions and domains of an acculturation gap, how an acculturation gap is measured may also be an important factor in explaining the inconsistent empirical results across studies. How an acculturation gap is calculated and how many reporters provided data on acculturation levels are two examples. Relative to how an acculturation gap is calculated, three methods have been pursued: (a) match/mismatch (i.e. comparing the levels of acculturation of children and their parents to determine whether their acculturation levels are matched or mismatched), (b) difference score (i.e. subtracting the parents' acculturation score from the child's acculturation score), and (c) interaction analysis (i.e. using acculturation gap variables as moderators, a regression analysis tests if types and directions of an acculturation

gap impact the association between acculturation and outcomes) (Telzer, 2010). Each method has been used frequently, and each has its strengths and weaknesses. The extent to which each calculation method produces different or similar results would be important to understand the results of studies examining the link between an acculturation gap and child outcomes.

Relative to the source of information that is used in determining an acculturation gap, many studies have utilized perceived acculturation as reported by one persons, e.g., the child, or the parent (Ahn, Kim, & Park, 2008; Buki et al., 2003; Lee et al., 2000). The findings from studies that have used a single reporter of the acculturation levels, whether child or parent, to calculate the gap appear to support the acculturation gap-distress model. However, it has also been found that acculturation levels can be reported differently by parents and children (Birman, 2006b; Ho & Birman, 2010).

Lastly, the findings of studies examining the association between an acculturation gap and child outcomes could differ based on various factors, such as participant characteristics (e.g. socioeconomic status, age, gender, generation status and country of origin of child), study design (e.g. cross-sectional and longitudinal), and publication type (e.g. book chapter, dissertation, published journals, etc.). For instance, socioeconomic status (SES) is known to be an important moderator of the association between acculturation and mental health for immigrants in that higher SES individuals have richer resources to navigate the acculturation process (J. D. J. Rodriguez, 2006). Also, cultural expectations for gender conformity can play a role. For example, one study of Vietnamese adolescents in Australia found that discrepancies between parent-adolescent values were associated with family conflict for girls, but not for boys (D. Rosenthal, Ranieri, & Klimidis, 1996). Overall, Telzer (2010) noted in her review that sample characteristics across the studies are diverse, and thus findings from one study may not be

comparable to another study. Moreover, studies reporting non-significant or unexpected findings (e.g. a statistically significant effect, but in the opposite direction) are less likely to be published than studies reporting significant findings in the expected direction. This is known as publication bias or the “file drawer” problem (Card, 2010). Therefore, the publication type would also be an important moderator to explain the findings of studies examining the association between an acculturation gap and child outcomes.

Purpose of the Present Study

Many studies of acculturation gap and adjustment have been conducted, especially during the last decade. This volume of studies warrants an effort to provide a statistical summary of the findings of these studies. Moreover, a statistical summary is all the more important because of the apparent inconsistency in the findings. Therefore, formally analyzing the empirical associations between an acculturation gap and adjustment outcomes will allow for a more definitive conclusion about the nature and strength any associations.

The present study will accomplish this by conducting a meta-analysis of relevant studies. In so doing it will attend to three of the fundamental concerns regarding studying an acculturation gap: (a) multiple dimensions of acculturation, (b) domains of acculturation and (c) measurement of an acculturation gap. By attending to these issues the present study will contribute meaningfully to an evaluation of the prevailing acculturation gap-distress model. Specifically, the anticipated findings of the current study should help clarify the inconsistency that currently exists in findings from empirical studies.

The three primary research tasks of the current study will be:

1. Examining the average magnitude of the empirical association between an acculturation gap and adjustment outcomes among immigrant children and youth.

2. Assessing the degree to which these associations differ depending on how acculturation and related gaps in acculturation are conceived (i.e., unidimensional vs. bidimensional models) and measured (i.e., source of information, calculation method).
3. Examining the role of social, economic and demographic features of the populations studied (i.e. socioeconomic status, age, gender, generation status and country of origin), study design (e.g. cross-sectional and longitudinal), and the publication types (i.e., peer-reviewed journals, dissertations) in moderating the association between an acculturation gap and adjustment outcomes.

Research questions will be answered by conducting a meta-analysis using the effect size (correlation coefficient r) found in the various studies that have been conducted on this topic.

Meta-analysis is an appropriate method to be utilized in the current study for several reasons: (a) it enables researchers to view the full scope of the research and make systematically based conclusions, (b) any conclusion is drawn not only from statistically significant studies, but also from non-significant studies, which allows for capturing a true test of the relationship between independent and outcome variables (R. Rosenthal & DiMatteo, 2001), (c) researchers become highly familiar with data from sample studies because they extract the information directly from actual articles to conduct meta-analysis, and (d) meta-analyses enables assessment of variation in effect size through moderator analysis (Cooper, Hedges, & Valentine, 2009).

Chapter II

Literature Review

The United States has a long immigration history, given that it is one of the most popular destinations for people who migrate globally (United Nations, 2010). The very high rate of influx of immigrants has a demonstrable impact on the demographics of the U.S. population. Currently, over 35 million immigrants reside in the United States. This represents a 150 percent increase over the past 25 years (Vericker, Kuehn, & Capps, 2007). Moreover, about 16.5 million children and adolescents live with at least one foreign-born parent, which means that now children of immigrants represent more than one in five American children (The Urban Institute, 2010). In fact, while the number of children in native U.S.-born families increased by 2.1 million between 1990 and 2008, the number of children with at least one immigrant parent grew by 8.1 million during those years (a 77% increase) (Fortuny & Chaudry, 2009). Moreover, by 2050 it is estimated that the children of immigrants will make up one third of all children in the United States (Passel & Cohn, 2008).

In response to this high rate of immigration, there is growing attention to issues concerning immigrant children and youth. One major issue involves understanding how these groups of immigrants adjust and adapt to mainstream culture from their ethnic culture: a process called acculturation.

Background: Acculturation

Even though the concept of acculturation was recognized as early as 2370 B.C. (Rudmin, 2003), it was not until less than a century ago that a thorough summary of the acculturation process and a definition of acculturation was offered (Redfield, Linton, & Herskovits, 1936). Redfield and colleagues stated that “acculturation comprehends those phenomena which result

when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (p.149).

This classic definition of acculturation identified changes that occurred in one or both groups of people of different cultures when they interact. Nevertheless, it appears that early researchers tended to view acculturation from a unidimensional perspective (i.e., changes from ethnic culture to host cultures) and believed that successful acculturation was achieved by the disappearance of the ethnic culture and the complete merging into the mainstream culture (Berry & Sam, 1996). This *assimilation model* was used to explain the process by which descendants of European immigrants from various national and cultural origins were able to be absorbed into mainstream American society (Alba, 1985; Gans, 1979; Gordon, 1964). These types of models suggested that immigrant groups become part of American culture and self-identify as American while gradually turning away from their ethnic heritage.

However, various studies have found that the assimilation process is contingent upon many factors, such as the degree of acceptance by host society of any immigrant group, as well as perceptions that the assimilation process of one ethnic group may be easier than another ethnic group (Portes & Rumbaut, 2001; Zhou, 1997). Also, the early assimilation perspectives could not explain the group variability by different cultural backgrounds. For example, unlike immigrants from European countries, later immigrants, like Latin Americans and Asians, have displayed patterns of holding their ethnic culture while also not turning away from their culture of origin when dealing with mainstream culture (Zhou, 1997). Consequently, many other acculturation models have been offered to understand the different adaptation processes of immigrants.

The *segmented assimilation model* (Portes & Rumbaut, 2001; Portes & Zhou, 1993) explains how the acculturation process varies by different factors associated with immigrant

people. Rumbaut and Portes (2001) suggested that the assimilation process continues to occur while immigrants adapt, but the adaptation outcomes are segmented, and there is no one assimilation path observed, especially for second generation immigrants. In other words, which immigrant groups become accepted and incorporated into mainstream culture or whether an immigrant group will assimilate into the middle class or the lower class is based on the intertwined natures of various processes and factors (e.g. political support, social status, and availability of economic opportunities). For example, Vietnamese, who received support through government aid and government programs, have made smooth progress into American society after a few decades. In contrast, some groups like Haitians are still struggling to assimilate or have assimilated into the lower class due to hostile governmental reception and discrimination (Rumbaut & Portes, 2001). However, even though the segmented assimilation model offers opportunities to look at group variability according to different factors, it is still unidimensional (i.e., concentrating only on the host culture) and linear in the conceptualization of the process of acculturation.

Berry (1980, 1997, 2003) proposed a thorough and comprehensive *acculturation model* that reflects a bidimensional process of acculturation. It has become one of the most frequently used frameworks in studies of acculturation. Berry (1980, 1997, 2006) defined acculturation as a process of cultural and psychological exchange that results from continuous contact between two distinct cultural groups and their families and individuals. He proposed a bidimensional acculturation model that includes four acculturation orientations based on (a) the tendency to maintain one's culture of origin and identity and (b) the tendency to have contact with and participate in the larger society.

Similar to the unidimensional assimilation model discussed above, Berry's first orientation, *assimilation*, is represented by an individual that has no relationship with his/her home culture and adopts solely the mainstream (or host) society's values and beliefs. In contrast, individuals who identify solely with their own group and simultaneously reject the host culture represent the second orientation: *separation*. *Marginalization*, the third orientation, refers to people who reject both their own culture and the host culture, losing cultural and psychological contact with both cultures. Finally, family members who become bicultural and maintain aspects of their own group while selectively acquiring some aspects of the host culture represent the fourth orientation: *integration*.

While this framework sensibly identifies four theoretical acculturation orientations/strategies, it is important to note that individuals can not necessarily choose a specific orientation/strategy. Thus, for example, some individuals are pushed to acculturate in one way over another, such as when immigrant children are taught by their parents to maintain their heritage culture. This can lead to acculturative stress. According to Berry (1980, 1997, 2003), acculturation stress results from conflicts that arise from the acculturation process, and individuals with high levels of acculturation stress may experience psychological distress and maladjustment. Berry also suggested that acculturative stress leads to different adaptation outcomes in relation to the four acculturation strategies. Specifically, the integration orientation is usually associated with better adaptation than other orientations, and the marginalization orientation is associated with the least adaptation. As a result, it is important to understand the role of acculturation stress in the process of acculturation. Moreover, acculturative stress not only affects individuals but also affects families. Specifically, stress from differences in levels of acculturation can cause problems in communication and understanding between family members,

(especially between parents and children), posing risk of maladaptation in either or both (Gil, Vega, & Dimas, 1994; Portes & Rumbaut, 2001).

Acculturation Gap

In line with the above, one major issue in the study of acculturation is the occurrence of an acculturation gap, or dissonant acculturation levels between parents and children. The study of acculturation gap has become more prominent over time due to the increasing number of immigrant families with children, and researchers have attempted to examine how such an acculturation gap is related to child adjustment outcomes and family relations (M. Kim & Park, 2011; H. H. Nguyen, Messe, & Stollak, 1999).

When families immigrate to a new society, acculturation demands can cause complex shifts in the proximal (e.g., changes in personal interaction patterns, changes in activities) and distal environment (e.g., changes of value, learning customs, goals, opportunities). Nevertheless, some immigrant parents hold tightly to their cultural beliefs and values even though they leave their former social networks and families (Chao & Tseng, 2002; Portes & Rumbaut, 2001). Moreover, such parents attempt to socialize their children with their heritage culture even when in the new (host) society. For example, immigrant parents often have high expectations for their children to maintain their home culture by speaking the language of their own ethnic group and obeying authority figures (Chao & Tseng, 2002). However, when children are more adherent or acculturated into the host culture and/or become dissatisfied with the socialization goals or practices of their parents, parent-child conflict may develop.

The Acculturation Gap-Distress Model

In the earliest acculturation-gap studies, Szapocznik and colleagues suggested intergenerational differences in acculturation as a factor in adolescents' problem behaviors and

family conflicts from their clinical work among Cuban families in the U.S. They also pointed out that conflicts based on parent-child acculturation discrepancies are different from parent-child disagreements that result from the normative developmental process of individuation (Szapocznik & Kurtines, 1993; Szapocznik et al., 1978). Sluzki (1979) also proposed that intergenerational conflicts are due to a discrepancy of acculturation between generations based on anecdotal evidence.

About 20 years later, Portes and Rumbaut (2001) developed a typology of intergenerational relations in immigrant families and suggested three acculturation patterns that differentially relate to parent-child conflict: (a) consonant, (b) dissonant, and (c) selective acculturation. When parents and children learn the host language and culture at a similar pace (*consonant acculturation*) or when the second generation youths are bilingual and compensate for the limited ability of the parents' English (*selective acculturation*), conflict between parents and children can be minimized. However, when children's adaptation or immersion in the host culture and language exceeds that of their parents' (*dissonant acculturation*), families often display a loss of parental authority, decreased understanding of the parents by the children, and parental demands of maintaining home country cultural values: all of which can be very challenging for children. Some studies have found, for example, that as conflicts in communication and understanding between family members arise due to contrasting acculturation levels, immigrant children can have adjustment difficulties such as poor mental health and delinquent behavior (Costigan & Dokis, 2006; Gil et al., 1994; Le & Stockdale, 2008).

In sum, even though there is no one lead theorist who proposed the acculturation gap-distress model, findings from several studies and theories on an acculturation gap have been used to develop it. But, while the model evolved to describe a specifically immigrant phenomenon,

findings from several empirical studies of immigrants have not been consistent with the framework. This has led researchers to recognize the need to thoroughly test the model's propositions.

Findings Relative to Acculturation Gap and Child Adjustment

The main tenet of the acculturation gap-distress model is that if children are more acculturated than their parents, they are at risk for problematic functioning. In support of this, many studies have found an acculturation gap to be associated negatively with the adjustment of children (Buki et al., 2003; Santisteban et al., 2003; Weaver & Kim, 2008). A thorough review of studies on the acculturation gap-distress model by Telzer (2010) lists all outcome variables measured in 23 studies. Roughly five groups of outcome variables were studied: internalizing (e.g. depression), externalizing (e.g. substance use), family conflict, positive functioning (e.g. self-esteem, academic achievement), and physical health.

Negative functioning (e.g. family conflict, internalizing and externalizing problems, physical health) has been frequently examined as a child outcome in many studies that have supported the link between an acculturation gap and maladjustment. Farver and colleagues (2002), for example, examined family conflict and anxiety in 180 Asian Indian American adolescents using a match/mismatch method to measure the acculturation gap. The finding showed that a mismatch of acculturation in the parent-child dyad was related to greater family conflict. Bajwa (2010) also tested whether an acculturation gap was associated with family conflict among 116 first and second generation immigrants in Canada from various ethnic backgrounds. Participants were asked to complete an online questionnaire assessing their experiences during adolescence and found that both mainstream and heritage acculturation gaps were significantly associated with increased family conflict.

Crane, Ngai, Larson, and Hafen (2005) found that difference scores in acculturation between parents and adolescent were significantly related to depression and delinquency in Chinese American adolescents. In addition, other studies have found that discrepancies in acculturation levels between parents and children have been linked with children's internalizing problems (Juang, Syed, & Takagi, 2007; Weaver & Kim, 2008), externalizing problems (Szapocznik, Santisteban, Kurtines, Perezvidal, & Hervis, 1984; Vega, Zimmerman, Khoury, Gil, & Warheit, 1995), and family conflict (Costigan & Dokis, 2006; R. M. Lee, Choe, Kim, & Ngo, 2000).

In contrast, there are studies that have found no significant association between parent-adolescent acculturation gaps and parent-adolescent conflict or adolescent adjustment problems. For example, Lim and colleagues (2009) found that an acculturation gap (adolescents were more acculturated than their parent) was not significantly related with youth depressive symptoms and somatization symptoms in a sample of 81 Chinese immigrant families in the U.S. Other studies have found no relationship between acculturation gap and intergenerational conflicts (Y. Choi, He, & Harachi, 2008; Fuligni, 1998; Tardif-Williams & Fisher, 2009) or between acculturation gaps and adolescent adjustment problems (Pasch et al., 2006; Sam & Virta, 2003). In addition, one study that measured acculturation gap with both match/mismatch and difference scores on both culture of origin and host culture with a sample of 260 Mexican American families found significant associations between youth conduct problems and acculturation gap, but the direction of acculturation was opposite (i.e. the parent was more acculturated than the child) (Lau, McCabe, Yeh, Garland, Wood & Hough, 2005). Further, in that same study, difference scores on acculturation level between parents and children were not significantly associated with family conflict or youth conduct problems.

The few studies that have examined the relationship between parent-child acculturation dissonance and positive functioning of children are also not consistent in their findings. For example, Farver and colleagues (2002) reported that an acculturation gap was associated significantly with (lower) self-esteem among 180 Asian Indian American adolescents, but not with GPA. Costigan and Dokis (2006) also found that an acculturation gap (regardless of the direction) was related to (lower) academic motivation among 91 Chinese immigrant adolescents in Canada. Liu and colleagues (2009), however, found that matched acculturation between parents and children as measured by heritage language proficiency in parents and children was related to higher math achievement scores and overall GPA among 444 Chinese American adolescents.

In sum, there appears to be substantial inconsistency in the findings of studies of parent-child acculturation gaps. This is true regardless of whether studies have sought to link the gap to negative or positive indicators of children's adaptation.

Interpreting the Inconsistency in Empirical Findings Relative to the Acculturation Gap

In order to understand the inconsistency in findings in the acculturation gap literature, it is first important to understand how acculturation has been conceptualized.

Conceptualization of Acculturation

Dimensionality of acculturation. Traditional models of acculturation conceptualized the construct as a linear and a unidimensional process (e.g., when individuals adopt host-culture behaviors and values, they simultaneously discard the same attributes that correspond to their culture of origin). Such a unidimensional framework views an individual as on the single continuum of acculturation to the host culture; i.e., whether s/he is completely immersed in the culture of origin and not acculturated to the host culture, or acculturated to the host culture and

having abandoned the culture of origin (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2007). In contrast, a bidimensional model views acculturation as consisting of two dimensions (e.g., adherence to native and host cultures independently; Berry, 1980; 2003). While children are acculturated into the main society, they also experience enculturation, the process of socialization (or resocialization) into and maintenance of the norms of the heritage culture (B. S. Kim & Abreu, 2001). In other words, while a child is highly acculturated into the host culture, he or she may be enculturated into the heritage culture as well (Berry, 2007).

Regarding dimensions of acculturation, J. D. J. Rodriguez (2006) suggested that acculturation has been conceptualized and measured in three ways. First is the *proxy measure* of linear acculturation. The proxy measure distinguishes the level of acculturation between two cultures through single factors like language use or place of birth. Even though proxy measures fail to capture the complexity of acculturation, they are quick and easy and thus they continue to be used in acculturation research. Second, *linear scales* of acculturation measure the level of acculturation in more than one domain (as in the Short Acculturation Scale for Hispanics; Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987).

While linear scales are an improvement over a proxy measure in terms of operationalizing the construct of acculturation, these measures are still based on the traditional models that render acculturation as a linear and unidimensional process. Both proxy measures and linear scales have been criticized for not capturing the bidimensional nature of the acculturation process. Lastly, *orthogonal/bidimensional measures* (as in the Bidimensional Acculturation Scale; Marin & Gamba, 1996) offer separate scores for acculturation and enculturation in classifying individuals into one of the four orientations from Berry's acculturation model.

One previous meta-analysis of studies on acculturation and smoking behaviors in Asian American adults (S. Choi, Rankin, Stewart, & Oka, 2008) specifically employed linear and unidirectional acculturation conceptualizations because the studies they analyzed were based on such frameworks. However, other meta-analyses have considered either unidimensional or bidimensional models of acculturation in order to test for potential differences by dimensionality of acculturation (A. D. Nguyen & Benet-Martínez, 2013; J. D. J. Rodriguez, 2006; Yoon et al., 2013).

One such meta-analysis was conducted by J. D. J. Rodriguez (2006), who analyzed studies that had linked acculturation to the mental health of Latino Americans. He examined whether the association between acculturation level and mental health varied by types of acculturation measure. He found that the mean effect was stronger for studies that used proxy measures than studies that used a linear scale measure. Further, the significant effects were found in only a few of several domains of acculturation. Thus, a significant average effect was found between acculturation and Latino youth drug and alcohol use and somatization, but not for tobacco use, anxiety, depression, suicidal ideation, eating disorder symptoms, or symptoms of general distress.

J. D. J. Rodriguez's (2006) meta-analysis also found that studies that had used a bidimensional measure of acculturation found that "bicultural Latinos" had the best mental health outcomes, compared to Latino groups of other acculturation types. Youth classified as "separated Latinos" had the lowest mental health outcome, which is different from Berry's (2006) findings in a study of 5,366 immigrant adolescents from 26 different cultural backgrounds in 13 different countries (Australia, Canada, Finland, U.S., etc.). He found that "marginalized immigrant adolescents" showed the lowest psychological distress. These findings from the J. D. J.

Rodriguez (2006) meta-analysis underscore the importance of measuring several types of acculturation because the effect strength between acculturation and mental health differed by domain of acculturation.

These findings of studies of acculturation are relevant to the purposes of the current study of understanding inconsistencies in findings relative to an acculturation gap because any such gap is informed by the dimensions of acculturation that are measured in any given study. For example, when researchers employ a unidimensional view of acculturation when calculating an acculturation gap, only one possible gap pattern can be determined: that is, children are more or less acculturated than their parents into the host culture. In contrast, when researchers take a bidimensional approach, whereby acculturation is assessed in both the host and native cultures, conceivable gaps can be found between parent and child acculturation to both the host and native cultures.

Telzer (2010) pointed out that studies testing the acculturation gap-distress model typically employ a unidimensional perspective (host culture), with less attention to considering acculturation gaps in native culture as well. However, because there are some studies that have taken a bidimensional approach to acculturation when calculating an acculturation gap, it will be interesting to test if the relationship between an acculturation gap and child outcome in the host culture (unidimensional approach) would be different from the association found when considering acculturation gaps in the native culture as well (bidimensional approach). Analyzing studies using both approaches, and, in particular, assessing effect size differences for studies using those differing approaches, will test one important possible explanation for the inconsistency in results across studies investigating the impact of an acculturation gap.

Domains of acculturation. In addition to the issue of dimensions of acculturation just described, the potential domains in which acculturation take place deserve careful attention because they also impacts how precisely an acculturation gap can be assessed. Telzer (2010) noted that since acculturation can occur in multiple cultural domains—e.g., language, family values, ethnic identity, and behavioral practices—another reason for the inconsistency in empirical findings might be differences across studies in the breadth of their coverage of acculturation. Some studies have considered only one domain, like language (Liu et al., 2009), while other studies have utilized multiple domains, like language, identity, and behaviors (Birman, 2006a) or language, media, values (Costigan & Dokis, 2006) when establishing an acculturation gap. Also, some studies have defined acculturation using a global index of acculturation (Crane et al., 2005; Lau et al., 2005) that combines several domains, such as the Suinn-Lew Asian Self-Identity Acculturation Scale (Suinn, Rickard-Figueroa, Lew, & Vigil, 1987) and the Pan-acculturation scale (Soriano & Hough, 2000).

A previous meta-analysis conducted by Moyerman and Forman (1992) recognized the complexity of domains of acculturation, but they incorporated multiple cultural domains into one construct. However, Telzer (2010) noted that a child-parent acculturation gap may occur in one domain but not in other domains. Kwak and Berry (2001) utilized three domains of acculturation (traditions, language, and marriage) to assess attitudes toward acculturation. Interestingly, both parent and children showed a separation strategy in the marriage domain (i.e., parents and children both prefer to maintain home cultural values on marriage), but they shared an integration strategy in the domains of language and cultural tradition. The findings showed that different acculturation gaps emerged between parents and children across domains of acculturation.

In addition, Szapocznik and colleagues suggested a hierarchy of acculturation by domain in that individuals learn adequate cultural *behaviors* before achieving a new cultural *value* system (Szapocznik, & Kurtines, 1980; Szapocznik, Kurtines, & Fernandez, 1980). Accordingly, parent and child acculturation levels in the domain of cultural behavior, like food choice (and the potential gap between them), would be different from acculturation levels in the domain of cultural values, like feelings of loyalty (and the potential gap between them) (B. S. Kim et al., 1999; Sabogal, Marín, Otero-Sabogal, Marín, & Perez-Stable, 1987).

Therefore, by examining both dimensionality and domain of acculturation, the present study will be able to test if there are effect size differences between studies that measure an acculturation gap with different levels of complexity.

Measurement of Acculturation Gap

In discussing the various possibilities for the inconsistency in empirical findings, Telzer (2010) drew attention to how an acculturation gap is actually measured or calculated.

Calculation. There are three common methods used to calculate an acculturation gap: match/mismatch, difference scores, and interaction analyses (Birman, 2006b; Telzer, 2010).

Match/mismatch methods calculate an acculturation gap by comparing the levels of acculturation of children and their parents. Typically, this comparison results in a two-fold measurement scheme: those who are matched in acculturation levels versus those who are mismatched (Holmes, 2008; Toro, 2011). Importantly, this dichotomous matching approach does not reveal which of the pair (parent or child) has higher or lower acculturation. In other words, it does not acknowledge the bidirectional nature of an acculturation gap (either parent or child can be higher or lower than the other). Further, for cases of matched acculturation levels, it does not distinguish the degree of acculturation (i.e., both parent and child are high, or both are low).

In contrast to matching, some researchers calculate a *difference score* by subtracting the parents' acculturation score from the child's acculturation score. Telzer (2010) indicated that the advantage of this calculation is to examine the distance between parent and child acculturation level as well as the direction of the discrepancy (Atzaba-Poria & Pike, 2007). Thus, a positive score indicates that the child is more acculturated than the parent, and a negative score reveals the reverse. Apparently, however, many researchers do not take advantage of the direction of the gap or otherwise ignore the directionality (Telzer, 2010).

It is true that studies have found that an acculturation discrepancy (i.e., a gap without attention to the direction of the gap) has been linked to externalizing problems (Lau et al., 2005; Le & Stockdale, 2008; Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2009), internalizing problems (Atzaba-Poria & Pike, 2007), and family conflicts (Birman, 2006a). However, there are other studies that have found that an acculturation discrepancy in which parents were rated as more acculturated than children was also related to maladjustment (depression, delinquency, etc.) (Atzaba-Poria & Pike, 2007; Crane et al., 2005; Elder, Broyles, Brennan, Zuniga de Nuncio, & Nader, 2005). Notably, such findings contradict the acculturation gap-distress model, which presumes higher acculturation among children. It is clear, therefore, that the direction of the gap should be examined to more accurately capture the association between an acculturation gap and outcomes.

The third approach to calculating an acculturation gap is *interaction analysis*, whereby researchers examine the four possible patterns of an acculturation gap (native culture: parent high, child low; parent low, child high; host culture: parent low, child high; parent high, child low). This approach attends to both type and direction of the acculturation gap between parent and child. While it does not consider the magnitude of the parent-child acculturation discrepancy,

it does acknowledge the bi-directionality of an acculturation gap and thereby allows for detecting which combination and direction of acculturation levels poses most risk for adjustment (Birman, 2006a).

Telzer's (2010) review concluded that acculturation gaps are usually measured in one of the three approaches in any given study, and that the match/mismatch and difference score methods are more commonly used than the interaction method even though the interaction method is recommended for its accuracy of capturing the type and direction. Birman (2006a), for example, computed acculturation gaps utilizing both difference scores and interaction methods in the same data set. Findings showed that with the difference score approach, larger acculturation gaps (regardless of the direction) in American behaviors were related to higher family conflict. With the interaction method, there was no interaction effect, but a main effect of parents' low acculturation in American behavior. In other words, a significant source for the higher levels of family conflict was parents' acculturation level, but not the acculturation level of adolescents.

It is likely that each method of calculating an acculturation gap has its own benefits, and researchers can select the method that best suits their specific research questions. However, it is important to remember that the results of studies on the relationship between acculturation gap and adjustment might well vary as a function of the method of calculating the gap. For that reason, specific attention to this issue will be included in the current meta-analysis.

Perceptions of acculturation. A further problem that researchers on acculturation note when trying to understand discrepant findings has to do with the source of information for the acculturation levels of parents and children that are used when calculating an acculturation gap. The literature includes discussion of "perceived gap" referring to studies that use a single reporter (i.e., either parent or child) when assessing acculturation levels, and "actual gap" for

studies that use reports on acculturation from both parents and children. The perceived acculturation gap is acquired by calculating differences between the reporter's own acculturation and that same reporter's perception of the other family member's acculturation. Consequently, the limitation of this measurement is that the acculturation discrepancy is solely based on the perceptions of one part of the dyad.

Several studies have found that perceived acculturation gaps (as reported either by the child or by the parent) are consistently associated with higher perceived family conflict and youth maladjustment (Ahn, Kim, & Park, 2008; Buki et al., 2003; R. M. Lee et al., 2000; Smokowski & Bacallao, 2006; Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009; Ying & Han, 2007). In contrast, studies that have used reports of both parents and children when assessing acculturation (i.e. the child is asked to report on her/his acculturation level, and the parent is asked to report on his/her level) and its gap ("actual acculturation gap") have been inconsistent in their findings (Birman, 2006a; Ho & Birman, 2010; Lau et al., 2005; Pasch et al., 2006). Merali (2002) suggested that the findings from studies that calculated a perceived acculturation gap may have overestimated or underestimated the acculturation level of the other party in the dyad. Indeed, in that study less than 10 percent of parent-child dyads made equivalent judgments about the partner's acculturation level. Merali (2002) also cautioned that a child's assessment of parent acculturation might be inflated; for example, children who experience more family conflict may feel more distanced from their parents and report a parental acculturation level that results in a greater acculturation gap (Merali, 2002).

The current meta-analysis will attend to differing combinations of perceptions of acculturation in the studies it reviews as a further test of effect size variation.

Characteristics of Immigrant Children

Additional factors that might explain the inconsistency of findings in the empirical literature on acculturation gaps and adjustment are particular characteristics of the populations being studied, including culture of origin, gender, age, and generational status. Such variables will be used as moderators in the current meta-analysis.

Country of origin. The composition and cultural backgrounds of immigrants are extremely diverse (Fortuny & Chaudry, 2009). Approximately half of the immigrants to the United States come from Latin America, with the balance immigrating from Asia, Africa, the Middle East, and Europe. Recently, studies on immigration appear to have paid closer attention than previously to the different migration and resettlement history and ethnic backgrounds of the populations they study. A case in point is Latinas/os and Hispanics. Although at one level they might be similar, they are actually a very heterogeneous population, coming from many different countries, settings, and cultures (Mexico, Puerto Rico, Cuba, El Salvador, the Dominican Republic, and other Latin American countries; Falicov, 1998). For example, Gil and Vega (1996) conducted a study to examine how acculturation stress is associated with adaptation among Cuban and Nicaraguan families. Both Cubans and Nicaraguans are early immigrants from Latin America, but the context of reception in the receiving country (i.e. the U.S.) was different. When Nicaraguans entered the U.S., many had low education, and the government was not as supportive as for Cubans. Therefore, Nicaraguans had more difficulties in areas like obtaining job permits and legal residence (Gil & Vega, 1996). The finding revealed that Nicaraguans experienced greater acculturation stress than Cubans, which was related to higher intergenerational conflicts and lower self-esteem. However, in studies examining the association

between acculturation gap and child functioning, it appears that there are still many studies that utilize broad groups of Latin and Asian countries.

Asian countries are linguistically, culturally, and religiously diverse (Uba, 1994). Choi and colleagues (2009) conducted a study examining how acculturation conflicts are associated with Vietnamese and Cambodian youth outcomes. Even though both ethnic groups are from Southeast Asia and are refugees, they speak different languages. Whereas Vietnamese are influenced by Confucian traditions, Cambodians are influenced by Buddhism. Consequently, authors have emphasized that these ethnic subgroups should be studied separately. However, due to some shared cultural values, like familism, Asian ethnic subgroups are still studied as an aggregated Asian ethnic group. Few studies have been conducted to compare subgroup differences. However, because every larger ethnic/national group has some shared cultural values, comparing differences in the association between acculturation gap and child outcomes between these larger ethnic groups has been appealing to researchers.

Latino/a culture and Asian culture emphasize different cultural values. For example, maintenance of traditional gender roles is one of the core values of the Latino/a culture (Toro, 2011). Emphasis on education is a key cultural value of Asian cultures (Yang & Rosenblatt, 2001). Moreover, both Asian culture and Latino/a cultures highly value interdependence, such as family piety and family respect, whereas European cultures are thought to prioritize individual values (Chao & Tseng, 2002; Freeberg & Stein, 1996; Ramirez et al., 2004; Yang & Rosenblatt, 2001)

It is also possible that an acculturation discrepancy in some domains may be more relevant to one ethnic than another. Chao and Tseng (2002) suggested that Asian parents' control of children is restrictive or domineering. Asian parents consider love and affection important

values, but they demonstrate their love and affection to their children through instrumental support and sacrifice (Wu & Chao, 2005). However, Asian immigrant children might be more likely to desire warmth from their parents (i.e., a key element of Western conceptualizations of parenting) (Wu & Chao, 2005). Such notions recommend attending to both ethnic group and dimension of acculturation when specifying the strength of any effect between acculturation gap and adjustment.

Generational status. The term “immigrant children/adolescents” basically comprises two types of generational status: 1) children born in the U.S. (2nd generation), and 2) children born outside of the U.S. who migrated to the U.S. when they were young (1.5 generation) (Zhou, 1997). The 1.5 generation children experience both cultures, and therefore they need to adapt to the new culture while still dealing with the culture of origin. Children arriving in the U.S. at preschool age are regarded as 2nd generation because they have less exposure to the culture of origin. They learn their parent’s culture through their ethnic community or from family, requiring extra work. They appear, therefore, more likely to develop attitudes of the host culture (Rumbaut, 1997). Along this line, Phinney, Ong, and Madden (2000) conducted a study among immigrant and non-immigrant Armenian, Vietnamese, and Mexican families with adolescents to see how the relationship between acculturation gap and adolescent outcome varied as a function of generational status. They found no differences in the effects of an acculturation gap between first generation and second generation children. This finding is actually consistent with the review by Telzer (2010), but who also noted that there are surprisingly few such studies.

The current meta-analysis will attend to generational status in the studies that it analyzes, and to the degree possible it will test for effect size differences according to such status.

Social economic status (SES). Based on the U.S. Census in 2000, one-half of children under age 18 in newcomer families have parents who have limited proficiency in speaking English. One in three children in immigrant families (31%) lives in a family in which neither parent has at least a high school diploma. Language ability and parental education levels are often closely tied to earning and overall integration and adaptation in the United States like getting a high skilled job (Portes & Rumbaut, 2001). Even though children in immigrant families are more likely than native children to live in two parent households (78% versus 65%), they are more likely than native children to live in families with incomes 200 percent below the official poverty line (48% versus 32%) (U.S. Census Bureau, 2000). Children living in poverty, especially those who live in poverty for extended periods of time, are more likely to have health and behavioral problems and experience difficulty in school (Duncan & Brooks-Gunn, 2000; Goosby, 2007). Samaan (2000) found that children living in poverty are at greater risk for mental health problems like depression and anxiety than children in higher SES environments. According to J. D. J. Rodriguez (2006), SES level is also associated with resource availability to navigate through the acculturation process, which may be one of the significant factors in child outcome adjustment. In addition, lower socioeconomic status has been found to be one of the common characteristics of families with dissonant acculturation levels (Portes & Rumbaut, 1996). For these reasons, the current meta-analysis will attend to SES as a potential moderating variable.

Age and gender. In addition to sociocultural factors, some demographic factors like gender and age might also inform variations in effect size differences found in studies of the association between an acculturation gap and adjustment.

Immigrant girls compared to immigrant boys have been found to be less likely to endorse traditional family values and more likely to acculturate to the host culture (D. Rosenthal et al.,

1996; Tang & Dion, 1999). In fact, there are several studies that indicate that immigrant girls are more pressured to follow their cultures of origins and experience more restrictive parenting in behaviors and marriage than boys, which is associated with greater conflicts with parents (R. H. Chung, 2001; S. J. Lee, 2006; Olsen, 1997; Rumbaut, 1996). For instance, Italian-Australian girls were less satisfied with their gender role than girls from the host culture, which led the girls to assimilate the values of the new host culture (D. Rosenthal et al., 1996). Consequently, the discrepancy between parent-adolescent values was associated with family conflict for girls, but not for boys (D. Rosenthal et al., 1996). In other words, the discrepancy between high expectation on conformity to ethnic culture and the actual acculturation level may create more distress for girls (Rumbaut, 1996).

In addition, younger children are less likely to be acculturated to the host society than older children, possibly because younger children are more likely to identify with their parents (Huang, 1997; Sodowsky & Lai, 1997). In addition, Moore (1987) indicated that late adolescence is a time for achieving autonomy and experiencing a separation from family, so immigrant adolescents who leave for college or for work may experience more separation from the native culture because there is less supervision by parents and more freedom to make their own decisions. In fact, Hajizadeh (2009) conducted a study on Asian Indian college students and found a significant relationship between acculturation gap and intergenerational conflict. In addition, many studies reported significant associations between acculturation gap and child adjustment outcomes among late immigrant adolescents (M. Kim & Park, 2011; Ahn et al., 2008; Dennis et al., 2010).

A further concern related to age and gender is that many studies control for such socio-demographic factors and thereby minimize the strength of the finding (S. Y. Kim, Chen, Li,

Huang, & Moon, 2009; Pasch et al., 2006; Smokowski, Rose, & Bacallao, 2008; Unger, Ritt-Olson, Wagner, et al., 2009). For example, in preliminary analyses of their data on Mexican American families, Pasch and her colleagues (2006) correlated gender and age with various child outcomes and found that older adolescents had higher substance use and school misconduct than younger adolescents, and that girls reported more conflict with their parents and more internalizing symptoms than did boys. As a result, they controlled for youth age and gender in subsequent analyses. This strategy prevented any detection of gender and age differences in the association between an acculturation gap and the child outcomes.

Other Factors

Along with child characteristics, some study features like publication type and study design can be looked at more closely to describe the findings from the current literature on acculturation gaps and youth outcomes. Particularly, many researchers have commented that studies with statistically non-significant or unfavorable results are less likely to be published. This is commonly known as publication bias or the “file drawer” problem (R. Rosenthal, 1979). Therefore, attending to publication type (e.g., peer-reviewed journals, dissertations) in the analyses will reveal whether the studies supporting acculturation gap-distress model have been published more than other types of non-published studies. In addition, testing for moderation by the type of research design (e.g. cross-sectional and longitudinal) of studies will also tell valuable information. The majority of the current literature on the topic of acculturation gap is based on concurrent relationships rather than longitudinal relationships (S.Y. Kim et al. 2013). However, longitudinal studies can show how an acculturation gap at baseline (wave 1) predicts youth outcomes later (wave 2 or later). Therefore, the results of longitudinal studies would display clearer causal associations between an acculturation gap and youth outcomes.

Lastly, psychometric properties of measures used in the studies were used as one form of assessing study quality. Particularly useful is the reliability coefficient alpha, which refers to the internal consistency of the items used to create scales. It is one of the ways to present construct validity; that is, whether the measure used in a study corresponds to the theoretical construct the researchers intended to measure. According to Nunnally and Bernstein (1994), 0.7 is an acceptable reliability coefficient. Therefore, the inter-item consistency was examined by: (a) coding reliability coefficients of measures used for calculating an acculturation gap and (b) labeling those studies with lower thresholds than .70 as lower consistency studies. In order to examine whether there were differences in effect sizes between lower and higher consistency studies, moderator analysis was performed with inter-item consistency as a moderator.

The Present Study

Even though discussions of acculturation gap have long been part of the acculturation literature, it is only within the last decade that concentrated empirical analyses have been pursued. Nevertheless, it appears that there are now ample individual studies to warrant a meta-analysis. This is particularly important given the inconsistency of findings within that empirical literature. Below I list the basic research questions that the study will ask and attempt to answer.

Research Question 1

What is the average magnitude of the empirical association between an acculturation gap and each of five adjustment outcomes among children and youth: internalizing problems, externalizing problems, physical health, positive functioning, and family conflict?

Research Question 2

Does the effect size of the association between an acculturation gap and adjustment vary by study characteristics—particularly how acculturation and the associated gap is constructed? This question has four parts:

2a. Does the magnitude of the association differ between studies that employed a unidimensional versus a bidimensional treatment of acculturation?

2b. Does the association vary depending on how the acculturation gap is calculated (e.g. difference score, match/mismatch, and interaction)?

2c. Does the association vary depending on which domain of acculturation is measured (e.g. language, value, etc.)?

2d. Does the association vary depending on who reports the acculturation levels that are used to calculate the acculturation gap (i.e., one reporter versus two reporters)?

Research Question 3

Does the effect size of the association between an acculturation gap and adjustment outcomes vary depending on (i.e., moderated by) key social and demographic variables such as socioeconomic status, age, gender, generation status and country of origin?

Research Question 4

Does the effect size of the association between an acculturation gap and adjustment outcomes vary depending on (i.e., moderated by) other study feature variables such as publication type, study design, and measure of inter-item consistency?

Chapter III

Methods

The present study used a meta-analysis method to conduct a comprehensive summary of findings from quantitative studies that have examined the association between an acculturation gap and adjustment outcomes in immigrant families in North America. Following is a brief discussion of related issues, including: the justification of a meta-analysis, literature search methods, inclusion criteria, the coding process, intercoder reliability, and data analysis.

Justification of a Meta-analysis

Meta-analysis is a quantitative statistical technique for systematically reviewing and aggregating study findings. It analyzes the results of a collection of empirical studies allowing for conclusions to be drawn from cohesive results (Card, 2011; Glass, 1976; Hedges & Olkin, 1985). Studies that are utilized in meta-analysis should be empirical, produce quantitative results, examine the same constructs and relationships, and have findings with a comparable statistical form (Lipsey & Wilson, 2001). The core parameter that makes meta-analysis possible is the effect size (i.e. estimating the magnitude of the relationship between independent and dependent variables). Effect size is calculated from test statistics (e.g., p values, odds ratios, correlational r) and is a standardized index that is comparable across studies.

In addition to the basic advantage of synthesizing an overall effect size between topics of interest, meta-analysis can also assess the variation in the effect sizes by characteristics of studies or populations (moderators) (Cooper, Hedges, & Valentine, 2009). In the case at hand, there is extensive complexity in the immigrant populations that are studied and in how acculturation and acculturation gaps are assessed across these studies. Attending to these study and population

differences will be essential to the purpose of clarifying the inconsistent results of the extant body of empirical research on the topic.

Meta-analysis also has limitations that should be acknowledged. First, no meta-analysis can be free from bias because including all possible existing studies is not feasible. Even though researchers aim to collect all relevant data, some data are not published due to statistically non-significant or unfavorable results. This is referred to as the file drawer problem (R. Rosenthal, 1979). The file drawer problem is one of the common publication biases, i.e., the tendency of accepting studies with statically significant results for the publication. In order to solve this problem, researchers should search all published and as much unpublished data as possible (R. Rosenthal, 1979; R. Rosenthal & DiMatteo, 2001). There are several techniques to detect publication bias in meta-analysis. The most commonly reported are funnel plot, Fail-safe N, and Trim and Fill.

Funnel plot evaluates publication bias through a scatterplot of effect sizes of included studies relative to their sample size. Publication bias may influence the shape of the funnel plot, as would be evident in an asymmetric funnel plot (Card, 2011). Rosenthal's *Fail-safe N* technique computes the number of missing studies the researcher may need to retrieve in the analysis before the p-value would become non-significant (R. Rosenthal, 1991). Consequently, if the number of studies required to nullify the mean effect is large (e.g. 1,000), then it infers the mean effect of the meta-analysis is less likely to be influenced by publication bias.

Duval and Tweedie's (2000a; 2000b) *Trim and Fill technique* utilizes the funnel plot approach. First, this method trims studies that yield an asymmetric funnel plot to estimate an unbiased mean effect size from the remaining studies. Next, it restores the trimmed studies and then fills studies in the opposite side of the plot to make a symmetric funnel plot. This allows for

accurate estimation of both the mean and heterogeneity of effect sizes (Card, 2011). Also, a visual display of a funnel plot with both observed and imputed effect sizes can show how much a mean effect size shifts from a funnel plot with just observed effect sizes. When the shift is small, one can conclude that the mean effect size is valid and that there is minimal publication bias.

A second limitation of meta-analysis is referred to as the “garbage in and garbage out” problem (Hunt, 1997). Even when researchers obtain a good number of studies for a meta-analysis, if the quality of the obtained research is poor (e.g. utilization of an unclear theoretical approach or methodological problems), then the quality of findings from the meta-analysis will also be poor. There are a few approaches to address this problem. One is a weighting approach that quantifies the methodological strength of each study in the analysis (R. Rosenthal & DiMatteo, 2001). Another is conducting moderator analyses using the type of methodology and type of operationalization of variables employed by each study. Third, effect sizes extracted from the same populations should be counted only once, and effect sizes from one study also need to be used independently. Fourth is avoiding the “combining apples and oranges” problem whereby one should not mix studies into the analyses that use different constructs or conceptualizations (R. Rosenthal & DiMatteo, 2001).

Literature Search

A systematic literature search was conducted to find a broad range of studies on acculturation gap and adjustment outcomes among immigrant ethnic populations in North America. The majority of the acculturation gap literature has been published since the 1990s, but studies published as early as the 1980s were included in the present study.

The following search strategies were used for finding adequate studies for inclusion in the current meta-analysis. First, I performed a literature search using electronic databases like

PsycINFO (1806-2013), Academic Search Premier (1912-2013), Web of Science, PubMed, WorldCat, ERIC, Google Scholar, Education Full Text, and Sociological Abstracts. The search terms were acculturation and gap, acculturation and discrepant*, acculturation and disparity*, acculturation and dissonance*, and culture and immigrant and gap. In so doing, the search covered dissertations, book chapters, and articles published in peer-reviewed journals. Second, the references of empirical and review papers were reviewed for qualified studies. Third, in order to include unpublished manuscripts, I sent e-mails requesting unpublished studies to the ethnic minorities section listserv of the National Council of Family Relations (NCFR), the Asian caucus listserv and Latino caucus listserv of Society of Research in Child Development (SRCD), and I posted an announcement requesting studies for my project on the Society of Research in Adolescence (SRA) website. Fourth, I searched programs of the NCFR annual conference (2007-2012) and SRCD (2005-2013) and SRA (2004-2012) biannual conferences to find presentations related to this topic. I then contacted the authors of these presentations if insufficient information was provided in the available online material. With these four search techniques, both published and unpublished studies were included to reduce publication bias in the meta-analysis.

Criteria for Study Inclusion

In order to conduct a meta-analysis one should have a clear strategy and criteria for inclusion and exclusion of studies. The following criteria were used in the present meta-analysis for inclusion and exclusion of studies. First, studies had to report quantitative results of the relationship between acculturation gaps and relevant outcomes, using the correlation coefficient Pearson r effect-size statistic. Qualitative studies, review articles, and commentaries were excluded.

Second, only studies of immigrant families in North America were included. Third, studies that assessed acculturation and acculturation gap by either or both children and parents were included. Also, children had to be either foreign born or have at least one foreign-born parent. Fourth, studies had to have reported at least one adjustment outcome (depression, family conflict, academic achievement, physical symptom, etc.). Fifth, the sample size of any study had to be at least 30, the accepted minimum sample size for meta-analyses (Faragher, Cass, & Cooper, 2005). Sixth, both published and unpublished studies that reported statistically significant and or non-significant effect sizes were included. Seventh, multiple studies that used the same data set were counted only once for each outcome variable.

Coding Procedure

Study characteristics and outcome measures were coded using Excel spreadsheets. The following characteristics were extracted and coded from the primary studies:

- 1) Demographic information of the sample: social class or education level of parents, ethnicity/culture of origin, age and gender of focal children, and generational status (place of birth),
- 2) Study characteristics: study design (cross-sectional or longitudinal)
- 3) Psychometric properties of acculturation measures and outcome measures
- 4) Measurement strategy for acculturation and acculturation gap: dimension of acculturation, acculturation scale, domain of acculturation, calculation method, and number of reporters
- 5) Outcome variables: internalizing problems (depression, negative affect, psychological symptoms, etc.), externalizing problems (substance use, aggression, serious violence, etc.), physical health, family conflict (family conflict, family disengagement, parent-child

communication), and positive functioning (academic achievement, self-esteem, social initiative, etc.). For the outcome variables, all the outcomes reported in the primary studies were coded directly first. Next, the outcomes were classified into five categories as done by Telzer (2010).

6) Publication information: type of publication (book chapter, peer-reviewed journal article, and dissertation) and year of publication

Reliability

I and another coder (a doctoral candidate in the Child and Family Studies department who is experienced in coding data for meta-analysis) coded the same studies separately. For a reliability check, 14 (22%) of the total included studies were drawn randomly, and both coders coded the same studies separately using the same coding sheet. Accuracy was 87%, and inconsistencies between the two coders were solved through discussion until 100% agreement was reached.

In order to test the consistency of grouping various outcome measures into five categories, the original two coders separately grouped the individual outcomes coded from the 14 studies. There was 91% agreement in the coding of the 23 outcome constructs that were included in the 14 studies. The constructs that were not similarly coded by the two coders were allocated to the appropriate group by discussion. In order to check if the grouping of the total of 60 outcome constructs from the entire set of studies was conceptually sensible, the chair of current dissertation was consulted.

Statistical Analysis

In order to analyze the magnitude and direction of the relationship between an acculturation gap and child adjustment outcomes, the Product-Moment correlation coefficient (r) was used as the effect size index because the majority of the results are reported in the form of

correlation coefficients (Card, 2012; Lipsey & Wilson, 2001). The effect sizes extracted from each study were averaged to produce a mean effect of the relationship between independent and dependent variables using the Comprehensive Meta-Analysis (version 2; CMA-2) statistical software program (Borenstein et al., 2005).

Extracting an effect size r from studies that report it is straightforward. However, some studies do not report r ; rather, they may report advanced statistical coefficients, such as the standardized beta from a multiple regression or a partial correlation from SEM. There are two ways to deal with these partial r s. First, since they are products of the relationship between variables when controlling for other factors, statisticians suggest analyzing studies that report the standardized betas and partial r s separately from the studies that report coefficient r (Card, 2011; R. Rosenthal & DiMatteo, 2001). Second, Peterson and Brown (2005) suggested using the following formula to convert the Beta coefficients to r in meta-analysis.

$$r = \beta + .05\lambda$$

$$(\lambda = 1 \text{ when } \beta \text{ is nonnegative and } 0 \text{ when } \beta \text{ is negative})$$

This approach for imputing effect sizes would produce more precise estimates of population effect sizes than omitting studies and would lower sampling error by increasing numbers of effect sizes. Therefore, this formula was used to impute r effect sizes from the studies that only reported beta coefficients.

Studies that reported no correlation coefficient (r) or relevant information to calculate effect size, but reported p -values were included because one can calculate effect sizes from p -values by converting the p value to a Z -score. This conversion process was conducted using the CMA2 program. In addition, when necessary the effect size r was computed from t statistics, F statistics, and χ^2 using formulas provided in Card (2011).

A normalization of r distribution was handled as follows. First, each r was transformed into Fisher Z transformation of r , and these Fisher Z transformed r s were averaged into both weighted and unweighted Fisher Z transformed r s. Lastly, the weighted and unweighted mean Fisher Z transformed r s were converted back to r , which is the weighted and unweighted mean r (Card, 2011; R. Rosenthal & DiMatteo, 2001; Lipsey & Wilson, 2001). For the current study, the weighted mean effect r was used.

Weighting of Studies

Weighting studies is recommended because some studies provide more precise results than others. The precision of effect size estimate is related to the standard errors (Card, 2011). Compared to studies with small sample sizes, studies with large sample sizes have results with low standard errors, and are therefore more likely to show a high precision of the effect size estimate. Therefore, giving more weight to studies with small standard errors would yield a more accurate illustration of the mean effect than the unweighted computation. The weight was calculated from the following equation using the standard error (Card, 2011).

$$W_i = 1/SE^2$$

(W_i = weighted effect size of each study, SE = Standard Error)

There are two statistical models to compute the mean effect based on the homogeneity of the studies. How much an effect size differs from one study to another is referred to as the homogeneity/heterogeneity of variance. This variation can be from random error within a study or from true variation from a heterogeneous population (Borenstein, Hedges, Higgins, & Rothstein, 2011). Heterogeneity can be tested with the Q statistic (within-group goodness-of-fit). When the Q statistic is statistically significant, it can be concluded that there is true variation between studies. The choice of which statistical model to be used to analyze mean effect sizes

(e.g., fixed or random effects model) depended on the heterogeneity of variance. In other words, if there was heterogeneity as indicated by a significant Q , then a random effects model would be used.

Fixed or Random Effects Model

There are two basic assumptions of the fixed effects model: 1) each study is measuring the same parameter and 2) there is no variation in the population across studies except random error (Borenstein et al., 2011). In other words, there is one true effect size in all the included studies. Therefore, a fixed effect model is used when all the studies are functionally identical or when researchers aim to compute the common effect size for generalization to several studies of the same population.

However, the assumptions may be unlikely and the true effect sizes could vary from study to study due to random error within studies and true variation in effect size between studies. The random effects model assumes that the studies were drawn from different populations. Consequently, the mean effect sizes computed from random effects models may be generalized to other populations as a whole.

Once it is found that there is heterogeneity among studies, moderator analysis can be performed if the heterogeneity may be explained from moderators (e.g., different types of acculturation gaps or different characteristics of studies). Moderator variables are categorically grouped, and the moderator effects are examined by the Q statistics between the groups. When the Q test is significant, it means that the effects between the groups are different.

Separate effect sizes were calculated for each adjustment outcome variable; thus, there were five separate mean effects (research question 1). Next, moderator analyses of differing methods for assessing acculturation and/or acculturation gap were conducted (research question

2). Lastly, moderator analyses were conducted using various characteristics of studies (research question 3).

Independent Effect Sizes

One critical parameter of meta-analysis is keeping each effect size independent so that each study of a particular sample of individuals provides one effect size (Card, 2011). There are various reasons that multiple effect sizes are reported in one study, and it is important to handle the effect sizes consistent with the intention of the author of the study. Card (2011) listed three typical cases of multiple effect sizes in one study. First, when authors report multiple effect sizes using different measures, one should consider how to obtain a single effect size. The first option is to decide which report is more relevant to the analysis and only use it. The second option, which is the more common method, is to average the two effect sizes by Fisher Z transformation of r s, and then convert back to the correlation r . In the present study, the second option of averaging the multiple effect sizes of several reporters was utilized.

The second case of multiple effect sizes in one study is that the effect sizes are separately reported for subgroups of the sample, as in, for example, when effect sizes are separately reported for males and females. Card (2011) suggested averaging the effect sizes to obtain one effect size by the same process of converting Z_r to r . In this example, the sample sizes of males and females would be combined. Alternatively, one can treat the subgroups as separate samples and use gender as a moderator. In the present study, effect sizes for subgroups of gender, ethnicity, and age from separate samples were kept in order to run moderator analysis.

The third case occurs when multiple effect sizes are reported in multiple studies, but the data come from the same sample population (i.e., the same data set). In meta-analysis, one effect size from one study should refer to one effect size per sample of participants. Therefore, multiple

reports from one primary data set should not be treated as multiple effect sizes. For example, findings from a dissertation and the published version of the dissertation should not be treated as separate effect sizes. In the present study, when there were several studies reporting multiple effect sizes using one primary dataset, only one report was used in the analysis.

Dependent variables in present study. Using the same logic of combining effect sizes and keeping the independence of effect sizes, I averaged the multiple effect sizes reported in one study when two or more effect sizes (i.e. depression, anxiety, etc.) were reported for each outcome measure (i.e. internalizing problem). Consequently, only one effect size was obtained from each study for each dependent outcome variable.

Issues with bidimensional acculturation measures. The above procedure was applied to obtain one effect size for each dependent outcome variable both for studies utilizing bidimensional measures as well as unidimensional measures. However, more explanation is needed for studies using bidimensional acculturation measures. Unlike unidimensional measures which report effect sizes from one culture (mostly host culture), bidimensional measures report effect sizes (r_s) from the host culture and the native culture. Therefore, the effect sizes from both host and native cultures had to be averaged to compute one final effect size to be included in the analysis. In so doing, I was able to compare the effect sizes from bidimensional measures with the effect sizes from unidimensional measures. For the bidimensional studies, the acculturation gap score was computed by subtracting the parents' acculturation scores from the children's acculturation scores for the host cultures and by subtracting the children's acculturation scores from the parents' scores for the native cultures. In both cases, a higher score (regardless of direction) indicated a larger gap in both cultures (Hwang et al. 2010; Lazarevic et al., 2012). For studies in which the subtraction direction was opposite (i.e., subtracting children's acculturation

scores from parents' acculturation scores for the host culture and vice versa), the direction of effect sizes (+ or -) was reversed. Thus, obtaining one effect size from averaging the effect sizes from both host and native cultures allowed for inclusion of both types of studies into the meta-analysis.

Chapter IV

Results

Description of Literature Search Process

As outlined above, four steps were taken to search for appropriate studies for the present study. The initial step of searching of electronic databases (i.e., PsycINFO, WordCat, etc.) using various search terms yielded a total of 2030 studies after deleting duplicate studies. The titles and abstracts for those 2030 studies were inspected, and studies were excluded that were not related to assessing acculturation gap and youth functioning; were not conducted in North America; and were qualitative or review articles. After eliminating those types of studies, only 139 qualified for full text review. Full text review reduced the number of eligible studies to 60. In this process, along with utilizing the same screening strategy as above, studies were dropped from inclusion that used the same dataset as another study or that actually measured acculturation conflicts or acculturation stress instead of acculturation gap.

Second, 10 studies were collected from reference lists of other studies. Third, I searched titles of presentations from conference programs of three academic conferences noted above and found 26 potential studies. I sent 22 e-mails to the first authors of the presentations (some authors presented multiple studies). Several authors replied with information that helped clarify that their study was not appropriate for this analysis; others provided published versions of the presentations (which I had already found through database searches). In the end, I obtained only one new study from this process of contacting authors.

Finally, e-mails were sent to the listservs of members of the Asian Caucus of the Society for Research in Child Development and the Minority Section of the National Council on Family

Relations, and an announcement about this study was made on the webpage of the Society for Research on Adolescence. However, these procedures resulted in no studies.

From all of these search procedures, a total of 71 quantitative studies that have examined the association between an acculturation gap and adjustment outcomes in immigrant families were identified as appropriate for this meta-analysis. However, one additional step was taken to finalize the set of studies for the meta-analysis. The present study utilizes correlation coefficient r examining the negative or positive relationship between acculturation gap and child outcomes. Therefore, studies calculating an acculturation gap with the difference score approach were all included in the analysis. For the match/mismatch approach, studies providing effect sizes of the association between acculturation gap and outcomes using a dichotomous indicator of matched (0) and mismatched (1), regardless of the direction of the mismatch, were included in the meta-analysis. However, studies reporting group differences (four possible types of match and mismatch groups) using f -test ($df > 1$) were not included in the meta-analysis (e.g., Farver et al., 2002; Pasch et al., 2006; Tardif & Geva, 2006).

Studies that calculate an acculturation gap by the interaction approach report the various combinations of parents' and children's acculturation levels and styles, yielding four possible combinations of acculturation gap: both parents and children are high, parents are low but children are high, both parents and children are low, and parents are high but children are low. This is done relative to both mainstream and heritage acculturation (Birman, 2006a). Some studies only report the beta coefficient of the interaction effect, which does not indicate the direct strength of the relationship between acculturation gap and child outcome, and some studies only provide a visual graph as a post-hoc illustration of the interaction finding instead of reporting the strength of the relationship between acculturation gap and outcomes. Four studies that only

reported effect sizes using the interaction approach were excluded (e.g., Asvat & Malcarne, 2008; Costigan & Dokis, 2006; E.C. Kim, 2006; Liu, Benner, Lau & Kim, 2009; Rasmi, 2012). The exclusion of these 8 studies reduced the total number of studies for the meta-analysis from 71 to 63.

Descriptive Analysis

Of the 63 final studies, some reported effect sizes separately for subgroups of participants (i.e. foreign born and U.S. born [Phinney & Ong, 2002], males and females [Ansary, Scorpio, & Catanzariti, 2012], early and middle age groups [Bamaca-Colbert, Umana-Taylor, & Gayles, 2012]). Counting such separate samples, the total number of independent samples included in the meta-analysis rose to 67.

Participant Characteristics

The samples included a total of 16,643 immigrant youth (mean sample size = 248.4; range between 40 and 3,344). The age range of the participants was from 9 to 33 years-old. About equal numbers of studies were conducted on Asians (N=27; 42.86%) and Latinos (N=26; 41.27%). The majority of studies were conducted in the United States (N=58; 92.06%), and only five studies were conducted in Canada. Among studies looking at more specific ethnic groups, studies on Mexican ethnic youth were the most frequently examined (N= 8), followed by Chinese (N=5) and Korean (N=4). Most studies included both first and second generation youth (N=58, 92.06%) and both genders (N=58, 92.06%) (see Table 1).

Study Characteristics

Dates of publication ranged from 1980 to 2013, but most were conducted recently. For example, 42 (66.7%) were published between 2001 and 2010; fifteen (23.8%) studies were conducted between 2011 and 2013; only 6 (9.52%) were conducted in 1980s and 1990s. The

majority of studies were cross-sectional (N= 54; 85.71%). A slight majority of studies were published in journals (N= 33; 52.38%); somewhat fewer were dissertation studies (N= 26; 41.27%) (see Table 1).

Characteristics of Acculturation Gap Measures

Several different acculturation measures were used across all studies (see Table 2). While a majority of studies (N=40) used either unidimensional (e.g. SL-ASIA [Suinn et al., 1987]) or bidimensional (e.g. VIA [Ryder et al., 2000], ARSMA-II [Cuellar et al., 1995] global measures, some measures (N=16) assessed more specific domains (e.g. AVS-R [Kim & Hong, 2004]; LIB [Birman & Trickett, 2001]). Some studies (N=7) used single items or a few items to measure acculturation (e.g., for language, preference of American ways). Among studies utilizing single domain measures, the cultural value domain (N=11) was more frequently examined than either language (N= 6) or behavior (N=4). Studies adopted more bidimensional assessments of acculturation gap (N=37) than unidimensional assessments (N=26). There were 25 studies (39.7%) that calculated the acculturation gap using child report only (which is also called perceived gap). A majority of studies utilized difference scores for calculating an acculturation gap (N=54; 85.7%).

Research Questions

The results of the meta-analysis are presented below in correspondence to the specific research questions. Next, results relative to study characteristics are presented.

Research Question 1

What is the average magnitude of the empirical association between an acculturation gap and five adjustment outcomes among child and youth: internalizing problems, externalizing problems, physical health, positive functioning, and family conflict?

Table 3 provides a list of individual effect sizes for all outcomes. A total of 117 effect sizes (coefficient r) were obtained from 63 studies (67 independent samples) for the final analysis. The range of effect sizes was from $-.295$ to $.447$. Seventy one effects (60.68%) reflected a positive association between acculturation gap and problem outcomes; thus, the higher the gap, the higher the problem behaviors (Table 3). Card (2010) recommended that meta-analyses should be conducted on a minimum of five studies, and there were five or more studies for all outcome categories except physical health ($N=3$). Therefore, the overall relationship between acculturation gap and physical health was not examined.

In testing for heterogeneity of variance, the analysis yielded a large and significant Q statistic for all four outcomes, meaning that the effects between groups were different (i.e., heterogeneous). Therefore, a random effects model analysis was performed (see Table 4).

The final four mean effects for each outcome measure were acquired with the computation of a weighted average combined Fisher Z statistics with a standard error and 95% confidence interval. The results revealed that there were small significant mean effects between acculturation gap and internalizing problems ($r = .1$; 95% CI: $.04$ - $.15$); externalizing problems ($r = .06$; 95% CI: $.024$ - $.096$); and family conflicts ($r = .15$; 95% CI: $.09$ - $.2$) (Cohen, 1988). There was no significant mean effect between acculturation gap and positive functioning ($r = -.02$; 95% CI: $-.12$ - $.08$) (see Table 4).

Rosenthal's (1991) fail-safe N was conducted, and the risk of publication bias in the analyses was minimal for all three outcomes (see Table 4). According to Duval and Tweedie's (2000a; 2000b) trim and fill technique, 4 studies were recommended to be imputed for internalizing problems, 2 studies for externalizing problems, and 8 studies for family conflicts.

The changes of mean effects were small after imputation for all three outcomes (Figures 1, 2, and 3).

In sum, the results indicate significant mean effects between an acculturation gap between parents and children and higher internalizing and externalizing problems in children and higher levels of conflict with their families.

Research Question 2

Does the size of the association between an acculturation gap and adjustment vary by study characteristics—particularly how acculturation and the associated gap is constructed?

This research question comprises four specific questions. Therefore, results are provided based on the subsequent research questions.

2a. Does the magnitude of the association differ between studies that employed a unidimensional versus a bidimensional treatment of acculturation?

In order to determine if the magnitude of the association between acculturation gap and outcomes differed by dimensionality, moderator analyses were conducted for all four outcomes with dimensionality as a moderator (unidimensional measure vs. bidimensional measure). There was no significant mean effect difference by dimensionality for any of the four outcomes: internalizing problems ($Q(1) = 1.69$, n.s.), externalizing problems ($Q(1) = .34$, n.s.), positive functioning ($Q(1) = 1.59$, n.s.), and family conflicts ($Q(1) = .58$, n.s.). The results indicate that the mean effect between acculturation gap and child outcomes is not contingent on the dimensional treatment of acculturation.

2b. Does the association vary depending on how the acculturation gap is calculated?

In order to examine if the method of calculating the acculturation gap impacted the association between acculturation gap and outcomes, the comparison of the magnitude of the relationships across types of calculation (difference score and match/mismatch approach) was originally planned. However, even though there were a total of 9 studies using the match/mismatch approach, there were not enough studies using the match/mismatch approach for any specific outcome to permit moderator analyses. Consequently, moderator analyses for calculation methods of acculturation were not performed.

2c. Does the association vary depending on which domain of acculturation is measured?

To investigate the extent to which the association between an acculturation gap and outcomes varied by domain of acculturation, moderator analyses were conducted with type of domain as a moderator. In addition, since many studies utilized global measures of acculturation instead of specific domains, I intended to compare the strength of associations between each type of domain and global assessments. However, there were not enough studies to compare differences in effect sizes between most domains (i.e., there were less than five studies per domain).

The number of studies that assessed a gap in the cultural values domain was adequate to permit a comparison with studies that employed a global measure of acculturation gap. Consequently, moderator analyses (cultural value domain vs. global measure) were conducted for all four outcomes. There was a significant difference in effect size for internalizing problems ($Q(1) = 7.4, p < .01$). The average weighted correlation between an acculturation gap in the cultural value domain and internalizing problems and between a global acculturation gap measure and internalizing problems were $r = .224$ and $r = .051$, respectively. In other words, the

magnitude of the mean effect between an acculturation gap in cultural value domain and internalizing problems was stronger than the mean effect from studies that used a global measure of acculturation gap. There were no significant differences for externalizing problems ($Q(1) = .034$, n.s.), family conflicts ($Q(1) = 1.75$, n.s.), or positive functioning ($Q(1) = .11$, n.s.).

2d. Does the association vary depending on who reports the acculturation levels that are used to calculate the acculturation gap?

As to whether the magnitude of association differed by number of reporters (child report vs. child and parent report), I conducted moderator analyses for all four outcomes with number of reporters as a moderator. Results indicated that there were no significant differences in mean effect size between studies that utilized a child reported gap and studies that employed both child and parent reports of acculturation for any of the four outcome measures: internalizing problems ($Q(1) = .11$, n.s.) externalizing problems ($Q(1) = .05$, n.s.) family conflicts ($Q(1) = 1.82$, n.s.), positive functioning ($Q(1) = .21$, n.s.). In other words, the magnitudes of association between acculturation gap and youth outcomes did not differ by who reported the gap.

Research Question 3

Does the effect size between an acculturation gap and adjustment outcomes vary depending on (i.e., moderated by) key social and demographic variables such as socioeconomic status, age, gender, generation status and country of origin?

I conducted analyses involving five moderators.

Age. Since the youth participants' age range was wide, studies were categorized as: either early youth group (younger than 14 years old); middle youth group (age between 14 and 18 years old); and late youth group (older than 18 years old) (Bamaca-Colbert et al., 2012). Based on the number of studies on each age group, I was able to conduct moderator analyses for internalizing

problems (early and middle group only), externalizing problems (early and middle group only), and family conflicts (all three age groups). For positive functioning, there were not enough studies (other than for the middle age group) to permit moderator analyses; therefore, they were not performed.

Results from three separate moderator analyses revealed that there were no significant differences in the mean effect between the early age group and the middle age group for internalizing problems ($Q(1) = .01$, n.s.) and externalizing problems ($Q(1) = .012$, n.s.), and among all three age groups for family conflicts ($Q(2) = .74$, n.s.). Overall, the association between acculturation gap and three outcomes was not moderated by age of youth.

Gender. Even though the vast majority of studies included both female and male participants, none but two reported the association between acculturation gap and outcomes separately for female and male (i.e. [Ansary et al., 2012; Trias-Ruiz, 1992]). Therefore, I was unable to conduct moderator analyses by gender.

Country of origin. In order to determine whether the mean effect between acculturation gap and outcomes varied by country of origin, I conducted moderator analyses on two levels.

First, the difference in mean effects by pan-ethnic groups, like Asian and Latino, were examined. (There were not enough studies with participants who immigrated from European countries and Middle East countries to be included for analyses.). Results of moderator analyses revealed no differences of mean effects by ethnic groups for internalizing problems ($Q(1) = .35$, n.s.), for externalizing problems ($Q(1) = .19$, n.s.), or family conflicts ($Q(1) = 1.28$, n.s.).

Second, as to whether mean effects differed by specific country of origin (i.e., Mexican, Chinese, etc.), I conducted moderator analyses with country of origin as a moderator for internalizing problems. It was only possible to do so comparing studies of Mexican and Chinese

immigrants. No difference was found in mean effects between these two groups ($Q(1) = 1.32$, n.s.).

SES and generational status. To examine if the mean effect between acculturation gap and outcomes varied by SES, effect sizes were needed for each SES level. However, even though the majority of studies reported SES by income or education level of parents, no particular study reported effect sizes between acculturation gap and outcomes separately by each SES level. Therefore, following the procedure I took for age, I tried to allocate each study into low, middle, and high SES level based on the level of SES of the majority of participants within each study. However, most studies included participants across all SES levels, and I was not able to label each study with a particular SES level.

Similarly, there was only one study that reported effect sizes separated for foreign born (1st generation) and U.S. born (2nd generation), and four studies reported effect sizes from first generation only. Otherwise, the majority of studies comprised both first and second generation participants. Therefore, there were not enough studies to conduct moderator analyses for generational status.

Research Question 4

Does the effect size of the association between an acculturation gap and adjustment outcomes vary depending on (i.e., moderated by) other study feature variables such as publication type, study design, and measure of inter-item consistency?

I conducted analyses involving three moderators.

Publication type. There were four types of publications included in the set of studies used in the meta-analysis: journal articles, dissertations, book chapters, and poster presentations. There was not an adequate number of book chapters ($N=3$) or poster presentations ($N=1$) to

conduct meta-analysis. Results of moderator analyses comparing studies reported in published journals and dissertations showed that the mean effect was higher in studies published in journals ($r = .15$) than in dissertations ($r = .02$) for internalizing problems ($Q(1) = 5.85, p < .05$). There were no significant differences between these two publication types in mean effects between acculturation gap and externalizing problems ($Q(1) = .96, n.s.$) and family conflicts ($Q(1) = 1.29, n.s.$).

Study design. Moderation by study design (cross-sectional vs. longitudinal) was possible only for externalizing problems. There were not enough longitudinal studies for the three other outcomes to justify meta-analyses. The mean effect for studies of acculturation gap and externalizing problems was not significantly different between cross-sectional and longitudinal study design ($Q(1) = 1.02, n.s.$).

Study quality: Reliability of acculturation measures. Experts on meta-analysis recommend that the quality of studies be considered when calculating the effect size on the presumption that lower or higher quality studies might reveal different effect sizes. One measure of study quality is the reliability of the measurement instruments used, as in inter-item consistency. Accordingly, studies used in the current meta-analysis were coded as more or less reliable based on a threshold of .70 alpha reliability of measures used to assess acculturation (Nunnally & Bernstein, 1994). Studies that employed measures with alphas at .70 or above were classified as more reliable. In addition, I identified studies that did not report the reliability coefficients because the measure was composed of a single or a few items. Instead of labeling them as less reliable, I coded them as *not reported* in order to compare against studies with lower and higher reliability. In order to determine whether the measurement reliability of studies impacted the magnitude of the association between acculturation gap and outcomes, moderator

analysis was conducted for internalizing problems (less and more reliable), externalizing problems (not reported and more reliable), and family conflicts (less and more reliable). The results revealed that the mean effect size was higher among studies coded as less reliable ($r = .23$) than among studies coded as more reliable ($r = .06$) for internalizing problems ($Q(1) = 5.36, p < .05$). In addition, the mean effect size was higher for studies ($r = .15$) with no reliability information (not reported) compared to studies coded as more reliable ($r = .03$) for externalizing problems ($Q(1) = 5.25, p < .05$). No significant differences in effect sizes between studies coded as less or more reliable were found for family conflicts ($Q(1) = .78, n.s.$).

Chapter V

Discussion

The purpose of the current study was to provide a statistical summary of studies on the relationship between a gap in acculturation between parents and children and negative and positive functioning in immigrant youth and families in North America. This was accomplished by conducting meta-analyses of 117 effect sizes reported in 63 eligible studies.

This study was prompted by inconsistent findings from the current literature examining the association between an acculturation gaps and youth and family outcomes. While many studies have found a positive association between an acculturation gap and negative individual and family functioning—which many interpret to support the prevailing conceptual model, the acculturation gap-distress model—other studies have found no such associations. Recent thematic reviews of the relevant literature suggested that the inconsistent findings are more likely due to the various ways acculturation gaps have been conceptualized and measured, and thus suggested that further attention should be paid to numerous characteristics of participants and study methods in order to clarify this inconsistent finding between an acculturation gap and individual and family functioning (Birman, 2006a; Telzer, 2010). Accordingly, in addition to assessing the main effect between an acculturation gap and youth and family outcomes, the present study included numerous moderator analyses as suggested by previous reviewers.

The main finding of this study was that, on average across the studies included in the analysis, there is a statistically significant, positive association between an acculturation gap and youth internalizing and externalizing problems and family conflict. As for the other two types of outcomes commonly studied in this literature, there was no significant mean effect for positive functioning, and there were not enough studies for the fifth category, physical health, to justify a meta-analysis. Consequently, the conclusion from the findings of these meta-analyses is that

acculturation gaps between parents and children in immigrant families in North America are systematically predictive of problematic individual and family functioning.

Moreover, the reliability of this effect was strengthened appreciably in the current study in that most of the moderator analyses that were conducted to more precisely define the main effect were not significant. Of all the tests for dimensionality, domain, age, number of reporters, country of origin, study design, measurement reliability, and publication type, only three significant findings were made: higher mean effects for studies that assessed the cultural domain of acculturation, for published studies, and for less reliable studies and studies that did not report reliability. Thus, the significant average main effect across the studies considered in this meta-analysis is robust in the sense that it applies regardless of age, country of origin, dimensionality of acculturation measures, reporters of acculturation gap, study design, and, for the most part, domain of acculturation gap and type of publication.

After making this finding, I revisited some of the studies that prior reviewers cited as not finding an effect between an acculturation gap and youth or family functioning. However, determining what may have led to the non-findings they refer to is difficult because there is little commonality among studies that have found no effect, including how acculturation was conceptualized and measured (e.g. Lau et al. 2005; Lim et al., 2009; Pasch et al., 2006; Smokowski et al., 2008; Zhou, 2001). Two studies illustrate this diversity well. The study of Pasch and colleagues (2006) was based on a unidimensional acculturation measure, a match/mismatch approach to calculating acculturation gap, focused specifically on the language domain of acculturation, using a sample of Mexican families. Whereas, the study by Lim and colleagues (2009) used a bidimensional acculturation measure, difference score and

match/mismatch approaches to calculating acculturation gaps, multiple domains of acculturation using a global index, on a Chinese sample.

Thus, because of too much methodological variation among studies that found no effect of an acculturation gap, it is not possible to interpret any particular reason for not finding the conventional positive effect. More research (see below) will be needed to replicate such non-findings and determine why the main effect might not hold for particular samples of immigrant families.

On the whole the findings of the current study are supportive of the acculturation gap-distress model in demonstrating that, on average, studies have found a positive effect between an acculturation gap and problematic functioning. According to that framework, an acculturation gap is problematic because it may prevent effective communication (e.g., if there is a gap in their language capacities) or understanding (e.g., if there are gaps in values or behaviors) between parents and youth, which might be associated with in disruptions in youths' sense of connection with parents or their reluctance to discuss emotionally difficult issues with parents (Bajwa, 2010; Costigan, 2010).

However, as common as are the references in the literature to the acculturation gap-distress model, it has actually not been thoroughly elaborated. Thus, too little is known about the probable paths through which acculturation gaps may affect negative or positive youth functioning. One contribution to this from the current study is that an acculturation gap in the cultural value domain was particularly strongly related to internalizing problems. Perhaps, therefore, youth who do not share cultural values with parents (e.g., the importance of family obligations, interdependence) lose the connection with parents and may refuse to accept native cultural values when parents demand their conformity. If this suggestion is valid, then it is

understandable that such conditions in the family would create family conflict and maladjustment.

It is important to acknowledge, however, that according to Cohen's (1988) conventions for characterizing effect size, the mean effect between acculturation gap and functioning that was determined in this study was small in size, and that it was only found for some of the outcome variables. Thus, the findings' support for the acculturation gap-distress model should not be exaggerated. In fact, it could be argued that the small mean effect supports past reviewers' claims that because acculturation and its gaps are very complex there is not good reason to expect consistent results (Birman, 2006b; Tardif-Williams & Fisher, 2009; Telzer, 2010). In reality, the small effect size, even though significant statistically, only explains from 1 to 2 % of the variance in negative youth or family functioning. Thus, the vast majority of why immigrant youths vary in their problem behaviors or immigrant families have conflict is unexplained by an acculturation gap.

It is, of course, likely that part of the reason that the effect size was small has to do with inadequacies in measuring acculturation, youth, and family functioning, and with calculating gaps within the complexity of acculturation. Below I offer suggestions as to how the research could go forward in order to address many of these limitations. Meanwhile, careful attention could be paid to the particulars of studies in which small, medium, and large effects have been found to determine any patterns in study design, method, or characteristics that might help inform on why different sized effects have been found. Otherwise, it would be valuable if statisticians would articulate if a mean effect size found in a meta-analysis should be characterized any differently in terms of size or strength than correlation coefficients that are found in single studies.

Otherwise, because acculturation and gaps in it between parents and children are highly complex processes, future empirical research could benefit greatly from qualitative studies that carefully explore these complexities. Findings from qualitative studies, which obtain the participants' own perspectives, insight, and experiences, may be as significant as researchers' interpretations based on quantitative findings. Phinney (2010) has noted that qualitative methods have rarely been used in the study of acculturation gap.

Implications for Practice

The present study suggests several implications for families and practitioners relative to reducing acculturation gaps between parents and children. Recognizing that an acculturation gap can exist for either or both the host and native cultures, it is first important to identify where the gaps are occurring. Relative to the host culture, any gap is likely to be a case in which youth are more acculturated than parents (Bajwa, 2010). In that scenario, practitioners could advocate for and provide parent education (e.g., learning the host culture language) so that parents and youth can communicate better relative to host culture. Alternatively, relative to the culture of origin, the likelihood is that parents would be more acculturated than youth (Bajwa, 2010). In that scenario, practitioners would focus instead on youth, helping them to learn about and appreciate the native culture. This might reduce the need that parents feel to force or require their children to honor or conform to key cultural values. Either of these efforts would likely facilitate effective communication between youth and parents and minimize any negative youth behaviors that might have resulted from poor communication (Liu, Benner, Lau, & Kim, 2009; Tseng & Fuligni, 2000).

Moving Forward

Despite the fact that the findings of these meta-analyses are straightforward in reinforcing the risk associated with a parent-child acculturation gap, there are many ways in which future research could be refined to more precisely define the association and, perhaps, find some of the variation that previous reviewers have been concerned about. Following are several areas that should be addressed.

Measuring an Acculturation Gap

Unfortunately, due to an inadequate number of studies and data constraints in the studies that were used for the meta-analyses, not all of the intended moderator analyses were possible to conduct. Particularly, studies utilizing match/mismatch and interaction calculation approaches had to be dropped from the analyses, which limits a fuller understanding of types and direction of an acculturation gap. When authors use difference scores, they assume that differences between parents' and children's acculturation occur in one direction: children more acculturated to the host culture than parents, or parents more acculturated to the native culture than children (Hwang et al. 2010; Lazarevic et al., 2012). However, this is not always the case, and several studies showed that some immigrant children scored higher on native acculturation than parents (Birman & Trickett, 2001; Farver, Bhadha, & Narang, 2002). Therefore, it is difficult to determine whether children are more acculturated than parents or parents are more acculturated than children in the host culture or native culture with the difference score approach. Several researchers have suggested that the match/mismatch and interaction approaches offer a better measurement of acculturation gap by providing both direction and type. Empirical validation of this contention, however, has been incomplete due to inadequate numbers of studies using either or both approaches. Therefore, more studies should be conducted using these methods of

calculating acculturation gap in order to test if and how they enrich understanding of the association between acculturation gaps and individual and family functioning.

Domain of Acculturation Gap

The current study found one significant moderating effect for domains of acculturation gap in that a larger acculturation gap in cultural values was associated more strongly with internalizing problems than was an acculturation gap that was measured with a global (i.e., non-specific) index of acculturation. Given that a global index of acculturation includes cultural values as well as other domains, like language, media use, and behaviors, it is difficult to conclude, however, that an acculturation gap in cultural values poses any unique risk. With that being said, research has shown that intergenerational value discrepancies can cause conflicts in families and adjustment problems among adolescents (Phinney & Vedder, 2006). Particularly, immigrant parents try to socialize their children with their own values, yet children are exposed to the values of where they are living. Thus, children may have difficulties maintaining values of parents and may adhere less strongly to them. Interestingly, acculturation gaps in other domains are not always looked at problematically. For example, acculturation gaps in language fluency are viewed more positively in that children who are fluent in English can assist parents as language translators, and acquiring language skills is necessary for school preparation (Costigan & Dokis, 2006; Morales & Hanson, 2005). Consequently, there is reason to believe that an acculturation gap in cultural values may in fact pose particular risk. More studies that specifically measure cultural values, and other domains of acculturation, are needed in order to confirm this

Because of an insufficient numbers of studies, it was not possible to test any other specific domains of acculturation in this study. This is particularly regrettable because such

specificity would be useful for developing intervention programs to help immigrant families. For example, by knowing which areas of acculturation gaps between parents and children are most problematic (e.g., communication, cultural values, behaviors, etc.), intervention programs could be more precisely targeted.

Perceptions of Acculturation Gap

Based on the descriptive analysis, there were more studies that derived the acculturation gap from two reporters (e.g., parents and children) than one reporter. Studies have been utilizing an *actual gap* by two reporters since the 1980s (i.e. Szapocznik & Kurtines, 1980). Therefore, measuring acculturation gap with two reporters was not a new tendency. In addition, the results of the moderator analyses indicated that whether the gap is perceived by one reporter or calculated from two reporters, the association between acculturation gap and all four outcomes are similar. One concern over a perceived acculturation gap has been that the gap may be unintentionally confounded with perceptions of family conflict (Birman, 2006b). It is unknown if this is actually the case, and so it is useful to measure an acculturation gap using two reporters. However, based on the results of this meta-analysis, a perceived gap by one reporter should not lessen the impact of studies that utilize this method because whether the gap is overestimated or underestimated by the sole reporter, the mean effects between both gaps are not different. This result is also useful to researchers who cannot involve both parents and children for measuring acculturation gaps.

Characteristics of Immigrant Youth

Even though the importance of testing the roles of child characteristics has been recognized by many researchers in understanding the relationship between acculturation gaps and child outcomes, not many studies have actually tested for these social and demographic

variables (Telzer, 2010). This is so even though most studies have included participants from both genders, from first and second generation youth, and from a wide range of SES backgrounds. However, instead, of testing effects by subgroup, or using the characteristics as moderators, most studies have used these characteristics as controls to adjust the variance in outcome measures.

Gender is one characteristic for which there is strong reason to test for specific effects because of strong culture-based values. Expectations of ethnic cultural conformity for girls, for example, have been found to be higher than for boys (Olsen, 1997). Further, R. H. Chung (2001) examined intergenerational conflicts between Asian American college students and their parents and found that female students showed higher intergenerational conflicts than male students, particularly on the issue of dating and marriage,.

Characteristics of Immigrant Parents

As noted above, most of the studies that were included in this meta-analysis contained information on child characteristics. However, an acculturation gap involves two or more people (child, parents, or other significant family members), and the contributions of other family members to child outcomes should be acknowledged. For instance, the gender, age or educational achievement of the parent with whom there is an acculturation gap could influence the types of acculturation gaps that arise. Hung and Lo (2010), for example, found that more educated Chinese parents tended to talk more about the country of origin and supported attaining their native language than less educated parents. They also found that older parents were more likely to endorse their ethnic values and practices than were younger parents. In addition, Asian mothers have been found to play more significant roles in ethnic socialization of their children than Asian fathers in general due to the cultural expectations of mothers, who are responsible for

education and nurturing (Kwak, 1998; Lamb & Lamb, 1976). Therefore, future studies should examine not only child demographic backgrounds, but also family demographics.

Positive Functioning Outcomes

The current study found no significant mean effect for positive functioning. However, there were very few studies that tested this association. Furthermore, positive functioning was measured in a variety of different ways in those few studies, which did not allow for the possibility of detecting effects on specific types of positive functioning. This may be another reason why there was an insignificant mean effect for positive functioning. Thus, more studies need to be conducted that assess multiple forms of both negative and positive functioning within the same study. This will help to define if an acculturation gap has specialized associations with specific manifestations of either or both negative and positive functioning. In fact, patterns might be quite complex. It could be, for example, that an acculturation gap between parents and children could predict family conflict, but that children might, nevertheless, have varying levels of self-esteem.

Regions of Hosting Countries

Only research that was conducted in North America was included in this study. This was done because most of the relevant studies have been conducted on North American populations; and, otherwise, it was sensible to restrict the analyses to one or more related cultures. The atmosphere of the hosting culture is an important factor for immigrant families to adapt and adjust to mainstream society because a hostile atmosphere, for example, will increase the stress level of families. This may lead to parents being more conservative on gender roles or ethnic practices (Portes & Raumbaut, 2001). Thus, future research could examine other regions to see if similar results are found.

Study Characteristics

Finally, two further qualifications of the main finding are in order. First, the mean effect of an acculturation gap was higher in published studies than in dissertations (for internalizing problems). In other words, had the meta-analysis been conducted only using published studies, the effect might have been exaggerated. This finding appears to reflect the “file drawer problem” that meta-analysis experts have cautioned about; namely, that statistically non-significant or unfavorable results are less often published (R. Rosenthal, 1979). The current study’s descriptive findings revealed that there are in fact a relatively large number of unpublished dissertations on this topic. Those findings should be recognized, and by doing so, the magnitude of the mean effect is tempered.

Second, study quality was assessed in the meta-analyses conducted in this study through the reliability correlation coefficient of acculturation measures that had been used in the eligible studies for calculating an acculturation gap. Interestingly, the mean effect size of less reliable studies was higher than that of more reliable studies (for internalizing and externalizing problems). This finding might be interpreted to suggest that less rigorous studies may find inflated effects. However, it should be remembered that the cutoff score used in this study (.70) was arbitrary. Had a different cutoff level been used, the finding may not have been made. Moreover, because an acculturation gap is measured in variety of ways across studies (e.g., perceived vs. actual gap or match/mismatch vs. difference score), relying on the psychometric properties of acculturation measures may be insufficient to assess study quality.

However, it needs to be acknowledged that the internal consistency of measures used in a study is but one measure of study quality. If other indicators of study quality (e.g., construct

validity, participation rates, etc.) were available and analyzed, it is possible that results would be different.

Perspective of an Immigrant Researcher

To the question of if an acculturation gap is problematic or affects youth and family functioning negatively, I, as a Korean immigrant to North America, would say “Yes.” I would say this based not only on the findings of the current study, but also on my own personal experience. Within the Korean community, I have had many discussions with immigrant parents and their children. In many of these conversations, I discovered that parents often felt their children did not appreciate or want to learn about Korean culture and language. Thus, the parents ended up stressing the importance of maintaining cultural heritage and making rules to speak Korean at home. Moreover, many immigrant children I talked with mentioned that their parents did not understand them and did not recognize the difficulties they face outside of the home. The children often felt their parents were too forceful with certain beliefs, and that they were not flexible like American parents. Both immigrant parents and children seemed to experience on-going difficulty living between two cultures.

Although the effect size in this study was small, it was significant, and this fact is an important point to me. It provides confirmation that acculturation gaps are real obstacles that immigrant families must face and that they cause stress for individuals and families. Personally, I am convinced that acculturation gaps and their consequences for the parent-child relationship and family functioning are real phenomenon of great concern to many immigrant families. To me, it seems especially noticeable when the cultures involved have such differing values (e.g. the U.S. and Korea or other Eastern and Western cultures). Even though my experience is limited to relatively few people of one ethnic group, I believe that the information I have learned in

conversations I have had with immigrant parents and children is credible. Therefore, as a researcher, my next step is to expand my knowledge through conducting systematic qualitative studies to reflect on the individuals' own voices. In addition, my focus will now be on answering questions of how and why—rather than if—acculturation gaps are associated with youth and family functioning.

Conclusion

The findings of this study lead to the conclusion that there is solid empirical reason to continue to study the effects of acculturation gaps between parents and children on youth and family functioning. Beyond confirming that main effect, the present study also reviewed, and where possible analyzed, for some of the many complex issues that surround acculturation and its potential gaps. From that work, it is apparent that much more refined work needs to be done before an adequate understanding of these complex relationships can be achieved.

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Appendix

Tables

Table 1.

Demographic Information of Participants Included In the Meta-analysis (N=63)

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Ahn (2008)	115	J	CS	18 to 27 years (M = 20.5; SD = 1.76)	73 female, 42 male	Korean	First generation: 42 (36.5%); Second generation: 73 (63.5%)	38 (33.0%) at >= \$70,000; Parent: College graduates or above: Fathers (n 99; 86.1%); Mothers (n 102; 88.7%)
Ansary et al. (2012)	174	J	CS	14 to 19 (M = 16.05; SD = 1.30)	96 (55.17 %) female	Multiple: Latino, Asian, and other	First generation: 75%	Income levels: \$49,014, \$56,815, and \$86,246
Bajwa (2011)	116	D	CS	18 to 30 years	82 female, 34 male	Multiple*: Latino/Hispanic, Asian, and other	First generation = 27; Second generation = 89	Education: High school 73, college 8, University 28, graduate school 7
Bamaca-Colbert & Gayles (2010)	319	J	CS	7th graders: 11 to 14 years (M = 12.25, SD = .46). 10th graders: 14 to 17 years (M = 15.21, SD = .46).	female only	Mexican American	Second generation: n = 100	Education: parent-majority less than high school education
Bamaca-Colbert et al. (2012)	271	J	CS	7th graders: 12 to 14 years; 10th graders: 14 to 17 years	female only	Mexican American	Seventh - 82 Second generation; Tenth - 86 First generation	Education: 70.8% of mothers with less than high school education;
Bermudez (2008)	102	D	CS	Adolescents: 11 to 16 years (M = 13.22 years); Parents: M = 39.66 years	80 female, 22 male	Latino	First and Second generation	Mean annual income per family: \$41,923.61 (\$23,091.91) Education level: Parents: Mean 11.00

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Birman (2006a)	115	J	CS	11-19 years	57% male	Soviet Union	First generation	Not Reported
Blanco-Oilar (2008)	365	D	LS	9 to 13 years (M = 12.2 years)	182 male, 183 female	Multiple: Hispanic/Latino, Asian, and other	not mentioned	Not reported
Bounkeua (2007)	80	D	CS	13 to 18 years (M = 15 years)	44 male, 36 female	Asian	First generation: 4%; 1.5 generation: 16%; Second generation: 80%	Education: parent-Mean 8 th grade (range 2 nd grade to graduate school)
Buchanan (2000)	159	D	CS	Adolescents: 11.26 to 18.67 years (M = 14.87). Mothers: 33 to 54 years (M = 41.28 years)	80 male, 79 female	European	First and Second generation	Education: 86% of mothers with college or graduate degree. Occupation: 82% of adolescents: did not work. 87% of mothers were employed
Cespedes & Huey (2008)	130	J	CS	13 to 18 years (M = 14.92, SD = 1.18)	70% female	Latino	First generation: 29	Not reported
Cespedes (2008)	395	D	CS	Students: 13 to 18 years (M = 15.25).	50% female, 45% male, 5% not report	Latino	First and Second generation	Not reported
D. Choi (2012)	139	P	CS	13 to 18 years	59% female	Asian	Second generation: 60%.	Education level: 12% high school; 48% college graduate Employment: 62% working; 28% housewives

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Chong (2007)	179	D	CS	18 to 25 years	42 male, 137 female	Asian*	First generation: 21; 1.5 generation: 45; Second generation: 108; Third generation or later: 5	Mean income: \$65,030 (23,386)
Cox et al. (2013)	631	J	CS	7th grade (M = 13.14 years)	47% female	Latino(a)	First and Second generation	Income: Majority low-income--95% received free or reduced lunch
Crane et al. (2005)	41	J	CS	12 to 19 years	19 male, 22 female	Chinese*	First and Second generation	Education level (Parents): Mean 17.15 (SD = 3.04) years for fathers; and M = 16.17 (SD = 2.54) for mothers
Davidson & Cardemil (2009)	40	J	CS	10 to 14 years (M = 12.17).	19 male, 21 female	Latino	Children: First generation: 55% (27.5% born in Puerto Rico).	Education level (Parents): 57.5% below or high school; 42.5% some or completed college Income: 60% reported less than \$25,000
Dinh & Nguyen (2006)	172	J	CS	M = 19 years, SD = 1.88	64% female	Asian American	Children: First generation: 77; Second generation: 71; Third generation or later: 24	Education level (parents): Some college/completed college—25% mothers, 52% fathers.

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Dinh et al. (2012)	191	J	CS	M = 15.98 years, SD = 1.08	57% female	Cambodian American	Second generation: 73%	Home Ownership: 50% reported parental home ownership
Elder et al. (2005)	106	J	LS	15 years (SD = 1.08)	56 (52.3%) female	Mexican	not reported	Not reported
Felix-Ortiz et al. (1998)	295	J	CS	14 – 19 years (65% were 15 or 16 years)	female	Mexican (over 80%)	First generation: 93%	Education: 55% reported parents without high school diploma
Gomez (2010)	76	D	CS	12 to 18 years (M = 14.89)	Not reported	Mexican	Not reported	Education (Parents): 63.5% with high school or 1-2 college. Income: Mean \$42,108 (Range \$7,200-\$198,000)
Gonzalez-Soldevilla (2003)	150	D	LS	M = 12.7 years	female	Hispanic	First generation: 70% (71% had been living in the U.S. for 10 years or less years during initial assessment)	Not reported
Gorgorian (2009)	160	D	CS	14 and 19 years	109 male and 51 female	Armenian	First generation: 53; Second generation: 107	SES: 14 lower-middle class; 86 middle class; 47 upper-middle class; 13 upper class
Grana (2010)	1501	D	LS	M = 14, SD = 0.39	53.5% male	Hispanic/Latino	Not reported	19% employed

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Hajizadeh (2009)	109	D	CS	18 to 21 years (M = 19.7 years)	84 female, 25 male	Asian Indian	First generation: 45; Second generation: 64	Participants all in college
Ho & Birman (2010)	104	J	CS	16 years	54% male	Vietnamese	First generation	Not reported
Holmes (2008)	3344	D	LS	11th and 12th grade	1459 male, 1739 female	Multiple: Latino, Asian, and other	First and Second generation	Not reported
Hwang et al. (2010)	105	J	CS	14 – 18 years (27% 14 years, 16% 15 years, 30% 16 years, 25% 17 years, 3% 18 years)	53% female, 47% male	Chinese	Children: Second generation: 51% (mean years residing in the U.S.: 7.04 years)	Not reported
Jeltova et al. (2005)	103	J	CS	13 to 18 years (M = 16.18)	female	Russian	First and Second generation	Not reported
Juang et al. (2007)	166	J	CS	13 to 17 years	60% female	Chinese	First generation (31%) and Second generation	Education (Parent): Mean 3.91 (SD = 1.42) (corresponds to a high school education)
A. B. Kim (2010)	208	D	CS	11 to 19 years (M = 14.77, SD = 1.97)	121 female	Korean	First generation: 91; Second generation: 87; Third generation: 21; Other: 4	Education (Parent): 60.1% (n 126) completed college. Income: 56 reported income of \$50,000-75,000

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
M. Kim & Park (2011)	77	J	CS	11 to 15 years (M = 12.9, SD = 1.06)	47 male, 30 female	Korean	First generation: 26 or 33.8% (born in Korea); Second generation: 51 or 66.2%	Education (Parent): 66.2% were college graduates or above. Income: Range \$70,000–79,999,
S. Y. Kim (2003)	444	D	CS	M = 13, SD = 0.73	239 female	Chinese	Second generation: 75%	Income: Median range-- %30,001 to \$45,000. Education: College— 42.5% mothers, 42% fathers.
B. S. Kim et al. (2009)	146	B	CS	17 to 33 years	80 female and 66 male	Korean	First generation: 41, Second generation: 101; 4 didn't report	Graduate/professional school—17.8% mothers, 23.1% fathers.
S. Y. Kim et al. (2013)	379	J	LS	Wave 1: 12 to 15 years; wave 2: 4 years later	206 female	Chinese	Second generation: 72%.	Education (Parents): 25.2% mothers and 29.8% fathers had more than high school education. Income: Median range: \$30,001 to \$45,000.
Lau et al. (2005)	260	J	LS	12 to 17 years	174 males and 86 females	Mexican	Second and Third generation: 86.2%	Education (Parent): 56% with less than high school; 30.9% completed high school; Income: Median range \$13,000 –\$13,999

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Lazarevic et al. (2012)	77	J	CS	18 to 30 years (M = 24.05)	59.7% female	Serbian refugee	All First generation	Education (Parent): 41.6% mothers and 39% fathers completed high school. Income: Total Range \$10,000 to \$30,000
Leong (2004)	51	D	CS	M = 15.8 years	18 male, 33 female	Asian	First and Second generation	Not reported
Lim et al. (2009)	81	J	CS	12 to 23 years	46 male (56.8%) and 35 female (43.2%)	Chinese	First generation: 35.8%; Second generation: 56.8%	Not reported
Lin (2011)	141	D	CS	13 to 18 years (M = 15.4)	59% female	Asian	First and Second generation	Mothers and fathers' occupations are given
Luna (2011)	60	D	CS	M = 13.90 years, SD = 2.62	Adolescents: 27 male, 33 female	Hispanic	First generation: 20; Second generation: 38; Third generation: 1	Not reported
Lundblad (2008)	94	D	CS	14 to 17 years	65% male 35% female	Hispanic	Second generation: 60%	Education (Parent): 39.4% high school or equivalent. Income: 32% earning \$25,000 and more
Martinez (2006)	73	J	CS	M = 12.74, SD = 1.05	56% male	Latino	First and Second generation	Income: Average \$21,681.04 (SD = \$9,534.75)

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Merali (2001)	50	D	CS	13 to 18 years (M = 15.18, SD = 1.88)	54% male	Hispanic*	First generation	Not reported
Moideen (1995)	43	D	CS	Children: M = 15.72, SD = 1.16; Mothers: M = 42.97; Fathers M = 47.55	23 female, 20 male	Indian	First generation: 23; Second generation: 20	Range of SES scores 20-62 (mean 54.56) high end
Orellana-Roldan (2007)	199	D	CS	9 to 14 years (M = 11).	75% male, 25% female	Latino/Hispanic	Not reported	Education (Parent): Mean 7 th grade (range 0-18 years). Employment (Parent): 35% mothers not employed
Pawliuk et al. (1996)	48	J	CS	6.5 to 17 years (M=11.7, SD = 2.8).	23 males and 25 female	Asian*	First generation: 11	Not reported
Phinney & Ong (2002)	103	J	CS	European-American: M = 14.6, Vietnamese: M = 14.9	61% Female	Vietnamese	Of the Vietnamese adolescents, 56% were First generation	middle- and working-class communities in the Los Angeles area
Rios (2004)	113	D	CS	12 to 17 years	82% adolescents were male	Hispanic	First and Second generation	Education (Parent): 40% less than high school; 35% high school. Income: \$35000 or less

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Schofield et al. (2008)	132	J	LS	7th grade	45% male and 55% female	Mexican	First and Second generation (83%)	Education (Parent): Fathers—range 0-18 years. Mothers—range 0-19 years. Income: Average \$35,770.
Smokowski et al. (2008)	402	J	CS	11 to 19 years	Fifty-four percent of the adolescents were female.	Latino	Mostly First generation	Education (Parent): 39% less than 9 th grade; 67% some high school
Stein & Polo (2013)	159	J	CS	6th to 8th grades (M = 13.1, SD = .73)	80 female 79 male	Mexican	First generation: 77; Second generation: 82	Education (Parent): 76.7% less than high school. Income: 20.2% greater than \$30,000
Szapocznik & Kurtines (1980)	55	B	CS	adolescents	Not reported	Cuban	Not reported	Not reported
Toro (2011)	89	D	CS	14 to 19 years (M = 15.58, SD = 1.34)	55 female	Latino	First generation: 14 (M=5.04, SD= 3.44)	Not reported
Trias-Ruiz (1992)	100	D	CS	15 to 18 years	47 male and 53 female	Mexican American	First and Second generation	Not reported
Tsai-Chae, & Nagata (2008)	93	J	CS	M = 19.24, SD = 1.35	male numbers for total 39 (42) for Korean only 16 (43.2) Chinese only 23 (41.1)	Asian	First and Second generation	Not reported

Table 1.

Continued

Authors (year)	N	Pub Type	Study Design	Age	Gender	Ethnicity	Generation Status	SES
Unger, Ritt-OLSon et al. (2009)	1772	J	CS	12 to 16 years	832 male, 940 female	Hispanic/Latino	First generation: 246	Income: Mean household income in the Zip code \$38,540
Wang et al. (2012)	183	J	LS	Wave 1: 12 and 15 years (M = 13.0, SD = 0.71); Wave 2: 16 to 19 years (M = 17.0, SD = 0.72).	Female accounted for 61.2% of the adolescent sample at Wave 1 and 60.1% at Wave 2.	Asian	Not reported	Education (Parent): Median level—high school graduate. Income: Median range \$30,001–\$45,000 at Wave 1 and \$45,001–\$60,000 at Wave 2
Xiong, et al (2008)	209	J	CS	12 to 25 years	123 male and 86 female	Hmong	First generation: 46% (36% Thailand born and 10% Laos born); Second generation: 54%	Not reported
Ying and Han (2010)	490	J	CS	W 1 M=14.37 (SD= .82) W 2 = 3 years later	50.4% male	South Asian	86 were born in the U.S.	69% middle-class
Zndi (2012)	55	D	CS	18 to 33 years (M = 23.95, SD = 4.38).	43.6% (N = 24) male and 56.4% (N= 31) female	Iranian	First generation: 6; Second generation: 29; 20 unknown	Not reported
Zhou (2001)	304	B	CS	11th and 12th graders median age = 17	48% female	Vietnamese	Second generation: 15%	Not reported

Note. J= journal, D= dissertation/master's thesis, B= book chapter, P= poster presentation, CS= cross-sectional study, LS= longitudinal study, and *= study was conducted in Canada.

Table 2.

Characteristic of Studies by Acculturation Gap Measures and Construction of Acculturation Gap

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Ahn (2008)	Unidimensional: heritage	Asian Values Scale – Revised (AVS-R; Kim & Hong, 2004): Current study (α .84)	Child	Difference	Asian values
Ansary et al. (2012)	Bidimensional: heritage and mainstream	Ethnic identity (The Multigroup Ethnic Identity Measure [MEIM; Phinney 1992]) - Affirmation and Belonging subscale (α s .82 -.85) and Other Group Orientation subscale (α s .67 -.87).	Child	Difference	Ethnic Identity
Bajwa (2011)	Bidimensional: heritage and mainstream	Vancouver Index of Acculturation (VIA) (Ryder et al., 2000) Current (α s .84 - .91)	Child	Difference	Global: cultural values, social relationships and adherence to traditions
Bamaca-Colbert & Gayles (2010)	Unidimensional: English use	Bidimensional Acculturation Scale for Hispanics (BAS; Mari'n & Gamba, 1996) Original (α s .92) Current (α s .88 - .97)	Child and Parent	Difference	Language
Bamaca-Colbert et al. (2012)	Unidimensional: English use	Bidimensional Acculturation Scale for Hispanics (BAS; Mari'n & Gamba, 1996) Original (α s .92) Current (α s .91 - .96)	Child and Parent	Difference	Language
Bermudez (2008)	Bidimensional: biculturalism	Abbreviated Multidimensional Acculturation Scale (Zea, Asner-Self, Birman, & Buki, 2003) Original (α s .83 - .97) Current (α s .85 - .92)	Child and Parent	Difference	Global: cultural identity, language competence, and cultural competence
Birman (2006a)	Bidimensional: American and Russian	LIB [Birman & Trinket, 2001] current: Language competence (α s .88 - .96) Identity acculturation (α s .88 - .94) Behavioral acculturation (α s .65 – 81)	Child and Parent	Difference, Interaction ^a	Multiple: language, identity, behaviors

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Blanco-Oilar (2008)	Unidimensional : heritage	VALUE: parent-teen cultural value discrepancy (Boyd-Ball & Dishion, 2000) Current (α .87 - .91)	Child and Parent	Difference	Family values (family time and cooperation)
Bounkeua (2007)	Bidimensional: European American and Culture of origin	Asian American Multidimensional Acculturation Scale (AAMAS; Chung, Kim, & Abreu, 2004), Original (α .81 - .91), Current (α .83 - 90) LIB (Birman & Zea, 1996; Birman, 1998)	Child (perceived gap) Child and Parent (actual gap)	Match/mismatch	Global: language, food consumption, cultural knowledge, cultural identity
Buchanan (2000)	Bidimensional: Russian and American	Language current (α .73-.95) Identity current (α .90-.92) Behavioral current (α .69 – 80)	Child and Parent	Difference	Multiple: language, identity, behaviors
Cespedes & Huey (2008)	Bidimensional: Latino and Anglo-orientation	ARSMA-II (Cuellar et al., 1995) Current (α .56- .88)	Child	Difference	Global: language, behaviors, social relationships Language;
Cespedes (2008)	Unidimensional: Anglo-orientation	Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA; Unger et al., 2002) (α .74 - .86) English Language Usage Scale (ELUS; Unger et al., 2002), (α .81 -.95) SL-ASIA (Suinn-Lew Asian Self-Identity Acculturation Scale) (Suinn et al., 1987) (α .83 - .86)	Child	Difference	Global: language, behaviors, social relationships
D. Choi (2012)	Unidimensional: English use	Vancouver Index of Acculturation (Ryder et al., 2000) (α .91 -.92)	Child	Difference	Language
Chong (2007)	Bidimensional: heritage and mainstream		Child	Difference	Global: cultural values and behaviors
Cox et al. (2013)	Unidimensional: English use	Youth Perceptions of self and parents' language proficiency (α = not reported)	Child	Difference	Language

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Crane et al. (2005)	Unidimensional: traditional to Western	Suinn-Lew Asian Self-Identity Acculturation Scale (Suinn et al., 1987) (α .83 - .86)	Child and Parent	Difference	Global: language, friendship, identity, behaviors
Davidson & Cardemil (2009)	Bidimensional: heritage and mainstream	AMASZABB (Zea, Asner-self, Birman, Buki, 2003) Current (α .90 -.98)	Child and Parent	Difference	Global: cultural identity, language competence, and cultural competence
Dinh & Nguyen (2006)	Bidimensional – tradition and American	Three items, developed by the first author (α = not reported)	Child	Match/mismatch	Value
Dinh et al. (2012)	Bidimensional – tradition and American	The Dinh Intergenerational Conflict Inventory(DICI; Dinh, 2005) Original (α = .76 -.91) Current (α = .75 -.92)	Child	Match/mismatch	Value
Elder et al. (2005)	Bidimensional: Mexican and American	ARSMA-II (Cuellar et al., 1995) Original (α .86 -.88)	Child and Parent	Difference	Global: language, behaviors, social relationships
Felix-Ortiz et al. (1998)	Bidimensional : tradition and American	Latina adolescent's level of feminism (high or low) (α = not reported)	Child	Match/mismatch	Language
Gomez (2010)	Bidimensional: Anglo and Mexico	ARSMA-II (Cuellar et al., 1995) Original (α .86 -.88) Current (α .85 - .87)	Child and Parent	Difference	Global: language, behaviors, social relationships
Gonzalez-Soldevilla (2003)	Bidimensional: biculturalism	Bi-cultural involvement (BIQ-B, Szapocznik et al., 1980; Birman, 1998) Original (α .89 -.94) Current (α .89-.90)	Child and Parent	Difference	Global: traditions, media, and food
Gorgorian (2009)	Bidimensional: Anglo and Mexico	ARSMA-II (Cuellar et al., 1995) Original (α .83- .88)	Child	Difference	Global: language, behaviors, social relationships
Grana (2010)	Bidimensional: U.S. and Hispanic	ARSMA-II (Cuellar et al., 1995) Original (α .83 - .88)	Child	Difference	Global: language, behaviors, social relationships

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Hajizadeh (2009)	Bidimensional: Asian and Anglo	ARSMA-II (Cuellar et al., 1995) Original (α .83 - .88)	Child	Difference, Match/mismatch ^b	Global: language, behaviors, social relationships
Ho & Birman (2010)	Bidimensional: Asian and American	LIB (Birma & Trinket, 2001) (α .82 - .95)	Child and Parent	Difference, Interaction ^a	Multiple: language, identity, behaviors
Holmes (2008)	Unidimensional: American	Dissonant Acculturation (α = not reported)	Child	Match/mismatch	Cultural preferences
Hwang et al. (2010)	Bidimensional : heritage and mainstream	Language fluency (two items) (α = not reported) VIA (Ryder et al., 2000) (α .75 - .92)	Child and Parent	Difference	Language; Global: traditions, values, behavior
Jeltova et al. (2005)	Bidimensional: Russian and American	LIB (Birman & Trickett, 2001) (α .93 - .95)	Child	Difference	Multiple: language, Identity, and Behavior acculturation (but averaged, no separate score and outcome)
Juang et al. (2007)	Unidimensional: traditional	Child Rearing practices Report (Block, 1986) (α .62 - .71)	Child and Parent	Difference	Parental control
A. B. Kim (2010)	Bidiemsional: culture of origin and Western	AAMAS (Chung et al., 2004) Current (α .81 - .93) AVS-R (Kim & Hong, 2004) Current (α .93)	Child and Parent	Difference	Global: language, food consumption, cultural knowledge, cultural identity
M. Kim & Park (2011)	Bidimensional: Asian and White	AAMAS (The Asian American Multidimensional Acculturation Scale; Chung et al., 2004). Original (α .79 - .88)	Child and Parent	Difference	Global: language, food consumption, cultural knowledge, cultural identity
S. Y. Kim (2003)	Bidimensional: Chinese, American	Vancouver Index of Acculturation (Ryder et al., 2000) (α .77 - .82)	Child and Parent	Difference	Global: cultural values and behaviors
B. S. Kim et al. (2009)	Unidimensional-Asian	AVS-R (B. S. Kim & Hong, 2004) (α .80)	Child and Parent	Difference	Cultural value

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
S. Y. Kim et al. (2013)	Bidimensional Chinese orientation, American orientation	Vancouver Index of Acculturation (Ryder et al., 2000) (α .78 - .88)	Child and Parent	Difference	Global: cultural values and behaviors
Lau et al. (2005)	Bidimensional: traditional and American	Vancouver Index of Acculturation (Ryder et al., 2000) (α .81 - .84)	Child and Parent	Difference, Match/mismatch ^a	Global: language use, values and beliefs, social environment, ethnic identity, and cultural traditions and practices
Lazarevic et al. (2012)	Bidimensional: Serbian and American	Vancouver Index of Acculturation (Ryder et al., 2000) (α .81 - .84)	Child	Difference	Global: traditions, Values, family Obligations, language
Leong (2004)	Unidimensional : Asian bidimensional: Asian and Anglo	Modified ARSMA- II (R. M. Lee et al., 2000); Asian Value Scale (Kim et al., 1999); Child Parents' Acculturation Index (PPAI: R. M. Lee et al., 2000) Original (α .81 - .85)	Child and Parent	Difference	Asian values; behavioral measure : language use, ethnic identity, etc..
Lim et al. (2009)	Unidimensional: Asian to Western culture bidimensional: Asian and western value	SL- ASIA (Suinn et al., 1987) (α .93)	Child and Parent	Difference, Match/mismatch ^a	Global: cognitive, behavioral, attitude, value
Lin (2011)	Unidimensional Asian into western	SL- ASIA (Suinn et al., 1987) (α .83 - .86)	Child	Difference	Global: language, Friendship, identity, Behaviors
Luna (2011)	Bidimensional: English and Spanish language	Bi-Dimensional Acculturation Scale for Hispanic (BAS; Marin & Gamba, 1996) (α .90 - .96)	Child and Parent	Difference	Language related

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Lundblad (2008)	Unidimensional: Americanism	Bi-Cultural Involvement Questionnaire (BIQ; Szapocznik et al., 1980), Original (α .79 -.94) Current (α .89 -.93)	Child and Parent	Difference	Global: American language, food, traditions
Martinez (2006)	Unidimensional: Americanism	Bi-Cultural Involvement Questionnaire (BIQ; Szapocznik et al., 1980), (α .78 - .91)	Child and Parent	Difference	Global: American language, food, traditions
Merali (2001)	Unidimensional: American behavior	The Behavior Questionnaire (Merali, 1996) (α .91 - .93)	Child	Difference	Adolescent behaviors
Moideen (1995)	Unidimensional: Asian to American	SL-ASIA (Suinn et al., 1987) (α .91)	Child and Parent	Difference	Global: language, identity, friendship choice, behaviors, generation/geographic history, and attitudes
Orellana-Roldan (2007)	Bidimensional: Hispanic, American	Stephenson Multi-group Acculturation Scale (SMAS; Stephenson, 2000), Bicultural Involvement Questionnaire (BIQ; Szapocznik et al., 1980) SMAS (α .90 - .97) BIQ (α .89 -.93)	Child and Parent	Difference	Global: language, Interaction, food and media
Pawliuk et al. (1996)	Unidimensional: traditional to Western	BIQ (Szapocznik et al., 1980) (α = .67)	Child and Parent	Match/mismatch	Global: language, practices, identity
Phinney & Ong (2002)	Unidimensional-traditional	Family Obligations (α .64 - .77)	Child and Parent	Difference	Family obligation
Rios (2004)	Bidimensional : Hispanic and American, unidimensional : Tradition to American	Bicultural Involvement Scale (BIS; Szapocznik et al., 1980) (α .85 -.95) Acculturation Scale (AS; Szapocznik et al., 1978) (α .94 -.97)	Child and Parent	Difference	Global: language use, music, food, and recreational references

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Schofield et al. (2008)	Unidimensional: American	ARSMA-II (Cuellar et al., 1995) (α .89)	Child and Parent	Difference	Global: language, behaviors, social relationships
Smokowski et al. (2008)	Bidimensional U.S. and culture of origin	BIQ (Szapocznik et al., 1980) (α .89 -.90)	Child and Parent	Difference, Interaction ^a	Global: language, media, food, recreation
Stein & Polo (2013)	Unidimensional: Traditional	Affiliative Obedience versus Active Self-Affirmation (Diaz-Guerrero, 1994) (α .81 -.85)	Child and Parent	Difference	Cultural value (obedience)
Szapocznik & Kurtines (1980)	Unidimensional: traditional to Western	Behavioral and Value Acculturation (α not reported)	Child and Parent	Difference	Multiple: behavior and value
Toro (2011)	Bidimensional: Mexican and Mainstream	Mexican American Cultural Value (MACVS; Knight et al., 2007) (α .67 -.85)	Child and Parent	Match/mismatch	Global: Overall acculturation, specific values
Trias-Ruiz (1992)	Bidimensional: Mexican and Anglo	The Cultural Life Style Inventory (CLSI; Mendoza, 1989) (α .87 -.91)	Child and Parent	Difference	Global: cultural familiarity, cultural preference, and Child and Parent usage of various Mexican and Anglo-American customs.
Tsai-Chae, & Nagata (2008)	Unidimensional : heritage	Behavioral Acculturation. The General Ethnicity Questionnaire (GEQ; Tsai, Ying, & Lee, 2000), AVS (Kim et al., 1999) GEQ (α .92) AVS (α .81 -.82)	Child	Difference	Asian values
Unger, Ritt-Olson et al. (2009)	Bidimensional: heritage and mainstream	ARSMA-II (α .69 -.88)	Child	Difference	Global: language, Behaviors, social Relationships

Table 2.

Continued

Authors (year)	Dimensionality	Measure used	Reporter	Calculation	Domain
Wang et al. (2012)	Bidimensional: American and Chinese	Vancouver Index of Acculturation (α .76 -.82)	Child and Parent	Difference	Global: traditions, Values, family Obligations, language
Xiong et al. (2008)	Unidimensional: American	Single Item (Ranieri, Klimidis, & Rosenthal, 1994)	Child	Difference	American way of doing
Ying and Han (2010)	Unidimensional: American	Single Item (α not reported)	Child	Match/mismatch	Preference for American ways
Zndi (2012)	Unidimensional Asian into western	SL-ASIA (Suinn et al., 1987) (α .68 - .91)	Child	Difference	Global: language, Friendship, identity, behaviors
Zhou (2001)	Unidimensional: American	Single Item (α not reported)	Child	Match/mismatch	Preference for American ways

Note. ^a = effect sizes (rs) are not averaged with effect sizes (rs) from difference score, ^b = effect sizes (r) are averaged with effect sizes (rs) from difference score.

Table 3.

Correlation Effect Sizes with Outcome Variables (63 studies, 67 independent samples)

Authors (year)	N	INTER	EXTER	FC	PF	PH
Ahn (2008)	115	-.09		.194	.07	
Ansary et al. (2012) – male sample	78	.313	-.130		-.130	
Ansary et al. (2012) – female sample	96	.343	.367			
Bajwa (2011)	116	.099	-.138	.212	-.176	
Bamaca-Colbert et al. (2010)	271	-.033				
Bamaca-Colbert et al. (2012) - early age sample	159	-.02		-.03		
Bamaca-Colbert et al. (2012) - middle age sample	160	.01		.14		
Bermudez (2008)	102		-.06			
Birman (2006a)	115			.302		
Blanco-Oilar (2008)	365		.048			
Bounkeua (2007)	80	-.087		-.02		
Buchanan (2000)	159			.03		
Cespedes & Huey (2008)	130	.07		.061		
Cespedes (2008)	395	-.116		.223		
D. Choi (2012)	139			.213		
Chong (2007)	179	.002		.158		
Cox et al. (2013)	631		.055			
Crane et al. (2005)	41	.63	.32		-.30	
Davidson & Cardemil (2009)	40		-.026			
Dinh & Nguyen (2006)	172			.242		
Dinh et al. (2012)	191	.22	-.05		-.16	
Elder et al. (2005)	106		.217			
Felix-Ortiz et al. (1998)	295		.113			
Gomez (2010)	76	-.046	-.104			
Gonzalez-Soldevilla (2003)	150	.06	.117	-.06		
Gorgorian (2009)	160			.052		
Grana (2010)	1501	.12	.06			
Hajizadeh (2009)	109	-.115		.225		
Ho & Birman (2010)	104			.246		
Holmes (2008)	3344		.173			
Hwang et al. (2010)	105	-.013		.034		
Jeltova et al. (2005)	103		.284			
Juang et al. (2007)	166	.34		.35		
A. B. Kim (2010)	208	.105		-.018		-.12
M. Kim & Park (2011)	77	-.07	.057			

Table 3.

Continued

Authors (year)	N	INTER	EXTER	FC	PF	PH
S. Y. Kim (2003)	444			.031		
B. S. Kim et al. (2009)	146			.07	.17	
S. Y. Kim et al. (2013)	379	-.035		-0.01	.007	
Lau et al. (2005)	260		-.045	-0.06		
Lazarevic et al. (2012)	77	.121		.225		
Leong (2004)	51	.017		.38		.01
Lim et al. (2009)	81	-.05				.13
Lin (2011)	141			.089		
Luna (2011)	60		.200	.335		
Lundblad (2008)	94		.051			
Martinez (2006)	73		.095	.08		
Merali (2001)	50	.033				
Moideen (1995)	43			.082		
Orellana-Roldan (2007)	199		.05	.141		
Pawliuk et al. (1996)	48				.447	
Phinney & Ong (2002) - U.S. born sample	44				-.31	
Phinney & Ong (2002) - Foreign-born sample	59				-.24	
Rios (2004)	113		-.05	.002		
Schofield et al. (2008)	132	.335	.105	.075		
Smokowski et al. (2008)	402			.266		
Stein & Polo (2013)	159	.31				
Szapocznik & Kurtines (1980)	55		.298		.143	
Toro (2011)	89	.06	-.10		0	
Trias-Ruiz (1992) – male sample	47	-.295				
Trias-Ruiz (1992) – female sample	53	.264				
Tsai-Chae, & Nagata (2008)	93			.16		
Unger, Ritt-Olson et al. (2009)	1772		.020			
Wang et al. (2012)	183		.032			
Xiong et al. (2008)	209	.09	.110	.042		
Ying and Han (2010)	490	.32		.57		
Zndi (2012)	55			.137		
Zhou (2001)	304	.128	-.154		.132	

Note. FC= family conflict, PF= positive functioning, PH= physical health.

Table 4.

Mean Effect Size by Acculturation Gap and Outcome Measures

Outcome measures	k	N	Mean effect (weighted r)	SE	95% CI	Z-value	Q test Heterogeneity	Fail-Safe N
Internalizing Problems	34	6524	.10	.01	.04-.15	3.35**	143.64(33)***	395
Externalizing Problems	30	10855	.06	.01	.01 - .1	2.57*	102.42(29)***	196
Family Conflict	37	6288	.15	.01	.09 - .21	4.65***	208.04(36)***	1200
Positive Functioning	13	1665	-.02	.01	-.12- .08	-.343	42.52(12)***	0

Note: CI = Confidence Interval; k = number of effect sizes; N= number of participants.

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

Figures

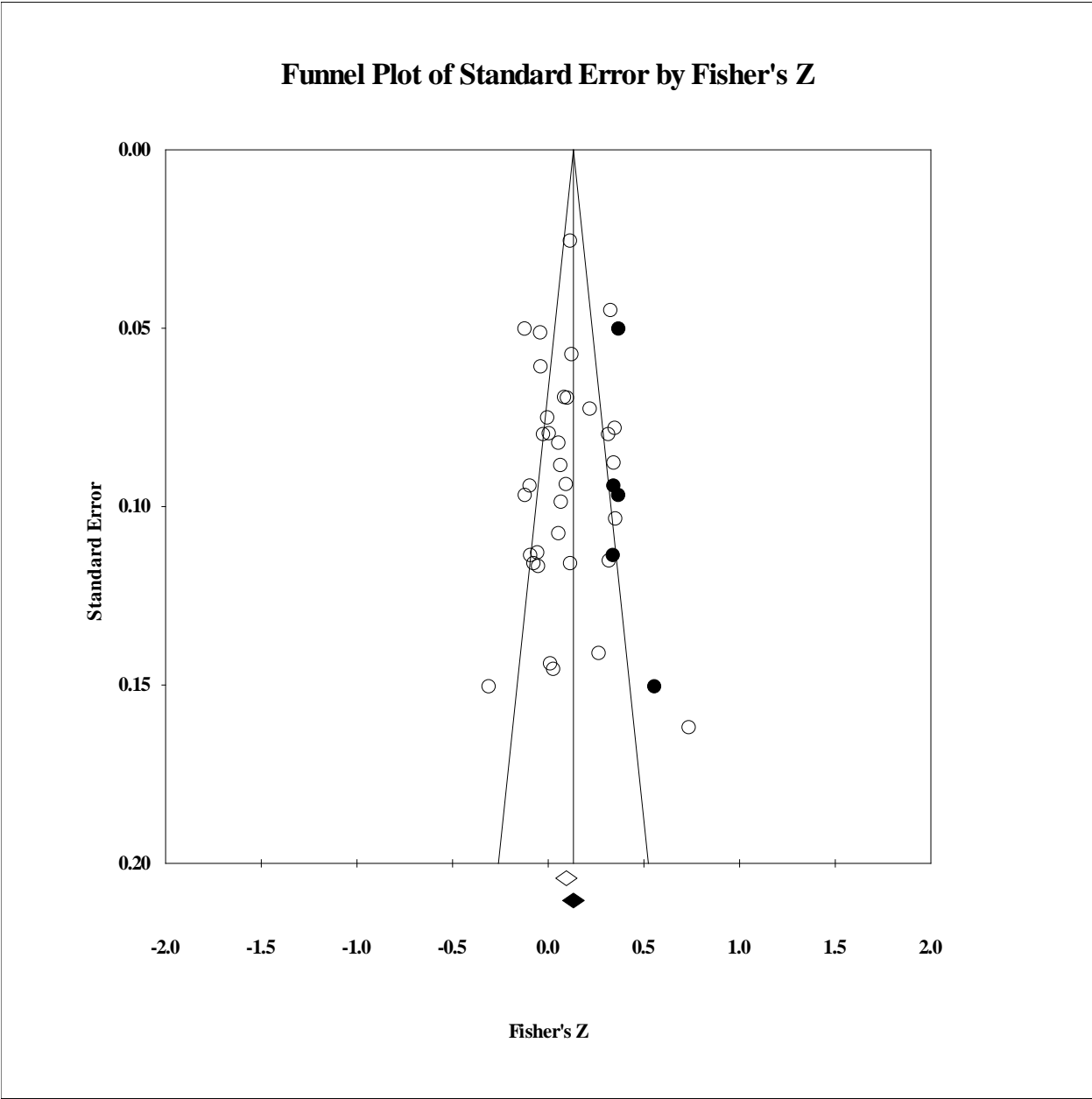


Figure 1. Funnel Plot with Imputed (dark) Studies for Internalizing Problems

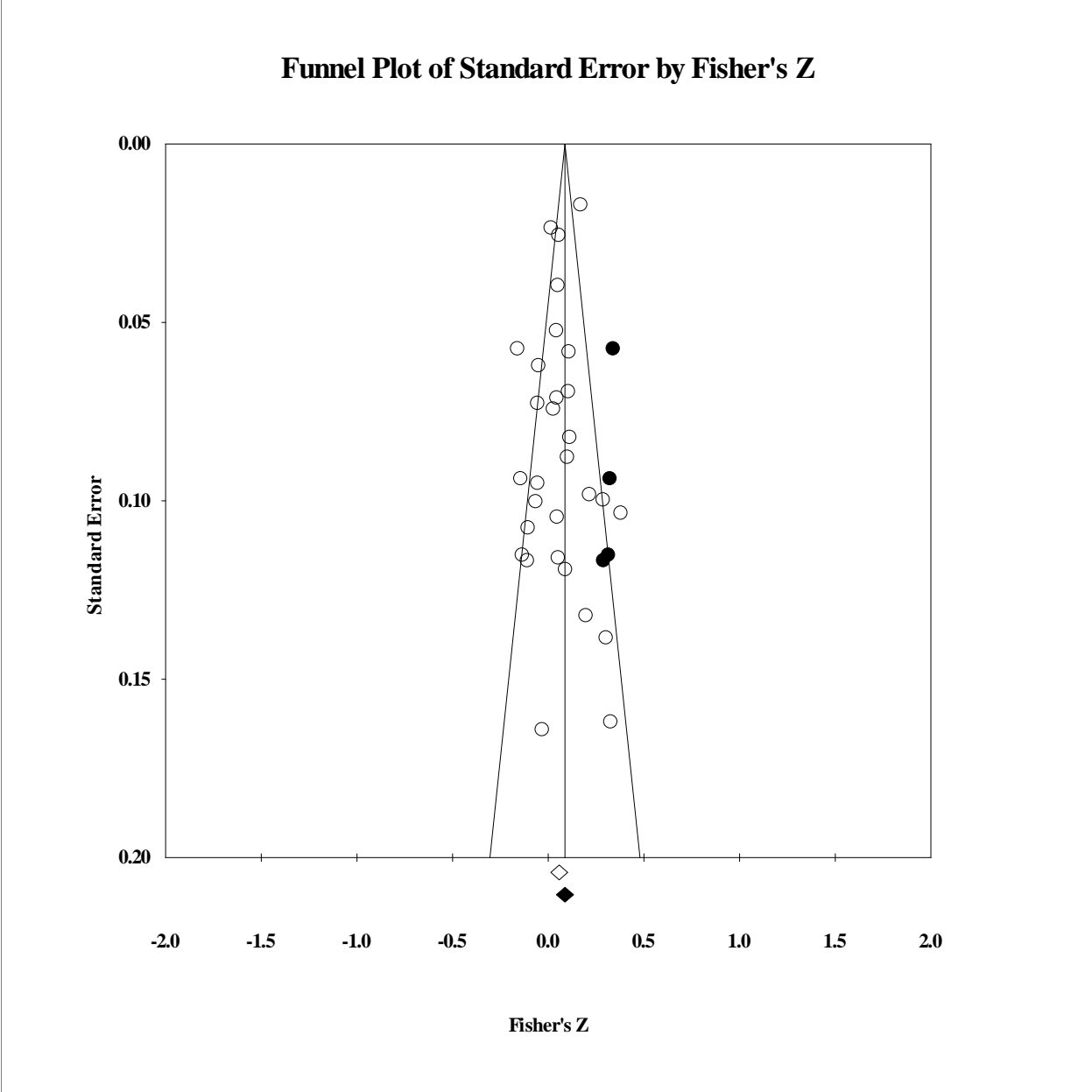


Figure 2. Funnel Plot with Imputed (dark) Studies for Externalizing Problems

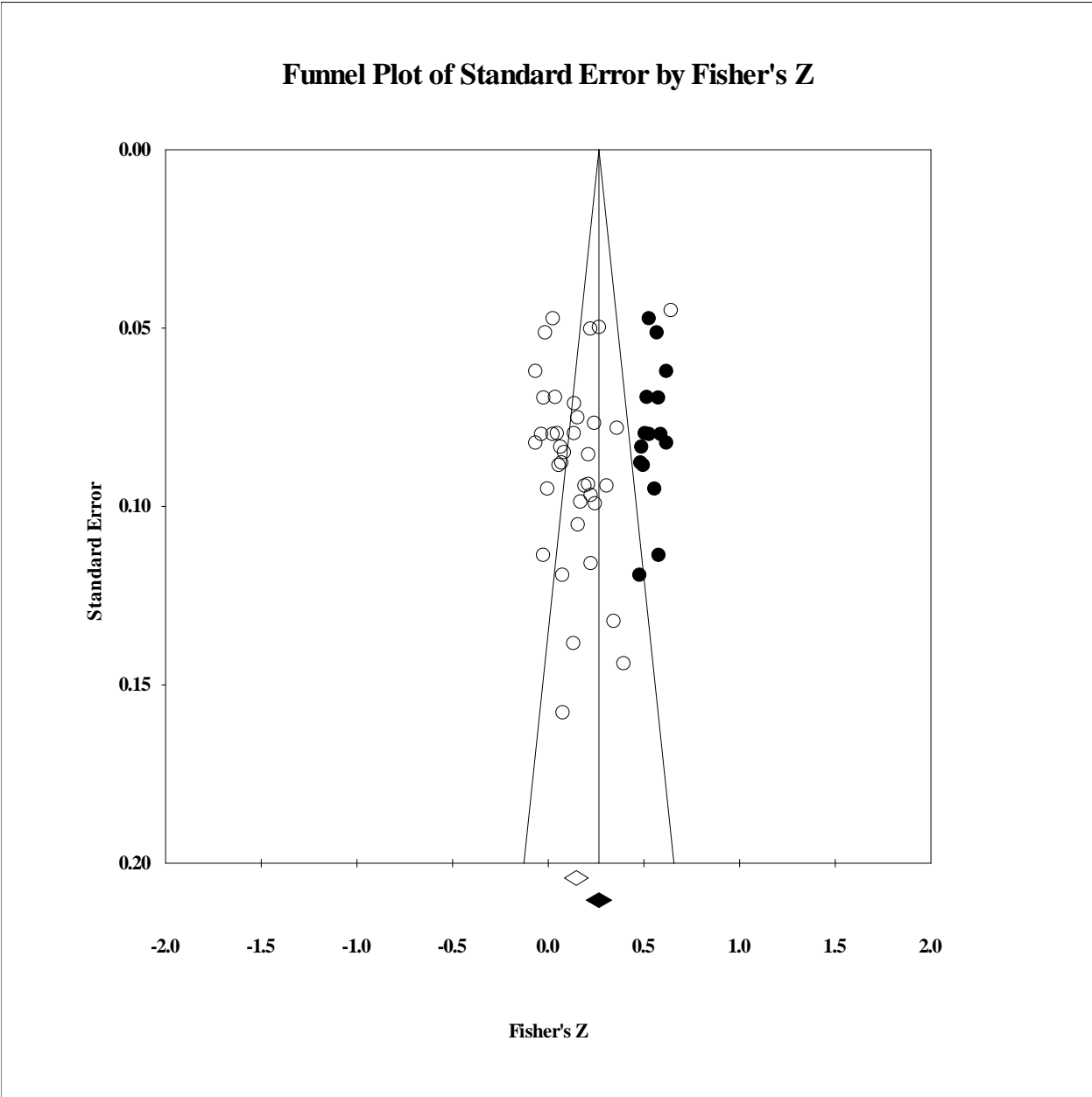


Figure 3. Funnel Plot with Imputed (dark) Studies for Family Conflict

Vita

Min-Jung Jung was born and raised in Seoul, South Korea. She pursued her higher education in the United States, and she received a Bachelor of Arts degree in Psychology from Maryville College in 2005 and a Master of Science degree from the University of Tennessee in Child and Family Studies in 2009. She earned her Doctor of Philosophy in Child and Family Studies from the University of Tennessee, Knoxville, in December 2013. Her passion for understanding and helping immigrant youth and their families will continue to guide her professional journey.