

# The Role of Acculturation Differences and Acculturation Conflict in Latino Family Mental Health

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THE ROLE OF ACCULTURATION DIFFERENCES AND ACCULTURATION  
CONFLICT IN LATINO FAMILY MENTAL HEALTH

by

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ABSTRACT  
THE ROLE OF ACCULTURATION DIFFERENCES AND ACCULTURATION  
CONFLICT IN LATINO FAMILY MENTAL HEALTH

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Marquette University, 2015

In order to help address the mental health disparities that exist for Latino families in the U.S., the current study sought to examine the acculturation-mental health link within the context of the Latino family and to identify potential mechanisms for intervention to alleviate mental health problems in this population. Specifically, our goal was to examine how parent-adolescent acculturation differences were related to mental health in Latino adolescents and their parents and to understand the role of acculturation conflict and family functioning within the Latino family. Participants included 84 adolescent-parent dyads recruited through bilingual middle schools. We found partial support for our hypothesis that family functioning mediates the relationship between acculturation differences and mental health outcomes for Latino parents. Additionally, we found partial support for our moderated mediation hypothesis; specifically, a significant conditional indirect effect was found for Latino cognitive acculturation differences on adolescent externalizing problems via family functioning at high levels of acculturation conflict. Exploratory analyses also indicated that acculturation conflict moderates the relationship between family functioning and externalizing problems for Latino adolescents. Results highlight the importance of understanding acculturation within the context of the Latino family, as findings differed for adolescents and their parents. Additionally, findings suggest that differences in acculturation may not always be problematic and their impact likely depends on how families interpret such differences.

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## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	i
LIST OF TABLES .....	v
LIST OF FIGURES .....	vi
CHAPTER	
I. INTRODUCTION .....	1
A. Acculturation .....	2
B. Mental Health in the Latino Family .....	3
i. Acculturation and Latino Mental Health .....	3
a. Latino Adolescent Mental Health .....	3
b. Latino Parental Mental Health .....	5
c. Limitations .....	6
ii. Family Factors and Latino Mental Health .....	6
C. Acculturation Differences within the Family .....	8
D. Current Study .....	10
II. METHODS .....	12
A. Participants .....	12
B. Recruitment .....	14
C. Procedure .....	14
D. Measures .....	15
i. ARSMA-II .....	16
ii. MACVS .....	16
iii. Acculturation Conflict .....	18

iv. FACES-IV .....	18
v. YSR/11-18 .....	19
vi. Demographic questionnaire .....	20
vii. CBCL/6-18 .....	20
viii. BDI-II .....	21
ix. BAI .....	21
x. TRF/6-18 .....	22
III. RESULTS .....	23
A. Correlations and Descriptive Results .....	23
i. Adolescent variables .....	23
ii. Parental variables .....	25
iii. Acculturation and mental health .....	26
iv. Acculturation differences .....	26
B. Mediation Analyses .....	27
i. Adolescent Internalizing Outcomes .....	30
a. Casual Steps Method .....	30
b. Sobel's Test .....	30
c. Bootstrapping Procedures .....	33
ii. Adolescent Externalizing Outcomes .....	33
a. Casual Steps Method .....	33
b. Sobel's Test .....	36
c. Bootstrapping Procedures .....	36
iii. Parental Outcomes .....	36

a. Casual Steps Method.....	36
b. Sobel's Test .....	39
c. Bootstrapping Procedures .....	39
C. Moderated Mediation Analyses .....	39
i. Conditional Indirect Effects .....	41
ii. Bootstrapping Procedures .....	42
D. Exploratory Post-hoc Analyses .....	42
i. Adolescent Internalizing Outcomes .....	43
ii. Adolescent Externalizing Outcomes .....	43
iii. Parental Mental Health Outcomes .....	44
IV. Discussion .....	46
A. Adolescent Mental Health .....	46
i. Internalizing Problems .....	46
ii. Externalizing Problems .....	48
B. Parental Mental Health .....	51
C. Acculturation and Family Functioning .....	54
i. Adolescent Acculturation .....	54
ii. Parental Acculturation .....	55
D. Limitations .....	56
E. Conclusions and Future Directions .....	56
V. Bibliography .....	59

## LIST OF TABLES

Table 1: Adolescent Demographics .....	12
Table 2: Parent Demographics .....	13
Table 3: Correlations and Descriptive Statistics for Study Variables .....	24
Table 4: Clinical Elevations of Adolescent Mental Health Measures & Clinical Elevations of Parental Mental Health Measures .....	25
Table 5: Descriptive Statistics and Correlations for Parent-Adolescent Acculturation Differences .....	27
Table 6: Results of Mediation Analyses for Adolescent Internalizing Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates .....	32
Table 7: Results of Mediation Analyses for Adolescent Externalizing Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates .....	35
Table 8: Results of Mediation Analyses for Parental Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates .....	38
Table 9: Results of Moderated Mediation Analyses for Adolescent Internalizing Outcomes Across Levels of Acculturation Conflict .....	40
Table 10: Results of Moderated Mediation Analyses for Adolescent Externalizing Outcomes Across Levels of Acculturation Conflict .....	40
Table 11: Results of Moderated Mediation Analyses for Parental Outcomes Across Levels of Acculturation Conflict .....	41
Table 12: Results of Moderation Analyses for Adolescent and Parental Outcomes .....	43

## LIST OF FIGURES

Figure 1: Conceptual Models .....	29
Figure 2: Interaction Effects of Family Functioning and Acculturation Conflict on Adolescent Internalizing Problems .....	45

## Introduction

Acculturation is the process of cultural learning and change that occurs when two groups come into contact with each other (Berry, 2003; Renfield, Linton, & Herskovits, 1936). For immigrant groups, acculturation often involves adapting to their host culture while simultaneously maintaining aspects of their culture of origin. The majority of Latino families in the U.S. are confronted with the challenges of acculturation, as 37% of Latinos are born outside of the U.S. (Nwosa, Batalova, & Auclair, 2014), and 52% of Latino children are the children of immigrants (Fry & Passel, 2009). Because immigrants must navigate between two cultures that may differ in language, values, beliefs, and customs, acculturation may result in stress and psychological distress (Berry, 1997), and therefore is an important context for understanding mental health in Latino families. In addition to acculturation, the family itself also is a key context for understanding mental health in Latinos, given the particular emphasis and importance of family within the Latino culture (familism; Marín & Gamba, 2003). The process of acculturation becomes even more complicated when examined within the context of the family, as family members may differ in their involvement with and orientation toward each culture, leading to intergenerational differences (Szapocznik, Santisteban, Kurtines, Perez-Vidal, & Hervis, 1984; Szapocznik & Kurtines, 1993).

Unfortunately, research examining acculturation and mental health within the context of the family is limited, and a better understanding of the process of acculturation within the family and how acculturation differences affect family functioning and mental health among Latino families is needed. Additionally, despite having similar or higher rates of mental health problems and risky behavior (CDC, 2004) compared to other ethnic

groups, Latino youth and their families face disparities in the availability, accessibility, and quality of mental health services (U.S. Department of Health and Human Services [DHHS], 2001). These disparities are particularly concerning given that Latinos are among the largest and fastest growing ethnic groups in the U.S. (Ennis, Rios-Vargas, & Albert, 2011). In order to address these disparities, more research is needed to understand the mental health of Latino families. Thus, the goal of the current study is to examine how acculturation relates to mental health in Latino families. Specifically, we seek to examine if acculturation differences between Latino youth and their parents and acculturation conflict are related to family functioning and the mental health of adolescents and their parents.

### **Acculturation**

Current theory proposes that acculturation is the mutual process of change that occurs when two cultural groups come into contact (Berry, 2001). Rather than being conceptualized as a linear process in which immigrants lose aspects of their culture of origin as they gain aspects of the host culture, as with previous theories (e.g., Gordon, 1964), current theory suggests that acculturation is bidirectional; specifically, identification and involvement with the new culture is independent of identification and involvement with the culture of origin (Berry, 2006). In addition to being bidirectional, the acculturation process also is conceptualized as multidimensional, with several levels of change, including behavioral and cognitive changes (Marín, 1992; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). For example, initial behavioral changes may include changes in the type of food and media consumed, followed by social changes, such as

language use and interaction with other groups, and finally cognitive changes, such as changes in values and norms (Marín, 1992).

The adjustment or adaptation of immigrant families to new cultural demands depends on several factors (Berry, 1997). A family's reasons for moving to a new country and migration experience, as well as their reception by the host culture, likely influence their adaptation to the new culture. Because of the current sociopolitical context of the United States, Latino families in the U.S. are likely to face significant challenges, including poverty, discrimination, and disparities in access to health care and housing, upon arrival (Nguyen, 2006). Given the range of experiences that immigrant families may face due to the process of acculturation, adjustment and adaptation may vary greatly from family to family, and even among members of the same family (Berry, 1997). Therefore, acculturation is an important context for understanding mental health in Latino families.

### **Mental Health in the Latino Family**

#### **Acculturation and Latino Mental Health**

##### **Latino adolescent mental health.**

Acculturation, specifically more acculturation or orientation to U.S. culture, is associated with increased rates of externalizing problems in Latino adolescents. For example, higher rates of delinquency are associated with more acculturation, specifically, higher generational status (Buriel, Calzada, & Vasquez, 1982; Fridrich & Flannery, 1995; Samaniego & Gonzales, 1999), more English language use (Fridrich & Flannery, 1995; Samaniego & Gonzales, 1999), and higher Americanism (Sullivan et al., 2007). In

addition, higher rates of substance and alcohol use also are associated with more acculturation, specifically, being born in the U.S. (Ebin et al., 2001; Epstein, Doyle, & Botvin, 2003; Gil, Wagner, & Vega, 2000) and language use for females (McQueen, Getz, & Bray, 2003), and for immigrants, increased time in the U.S. (Gil et al., 2000). Additionally, more acculturation or orientation to U.S. culture is linked to internalizing problems, such as higher depressive symptomatology in girls (Lorenzo-Blanco, Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2011), eating disorders (Gowen, Hayward, Killen, Robinson, & Taylor, 1999), and general internalizing symptoms (Dawson & Williams, 2008).

However, this link is not consistently supported. Other studies have found that acculturation to U.S. culture is inversely related to externalizing symptoms (Dawson & Williams, 2008) and substance use (Zamboanga, Schwartz, Jarvis, & Van Tyne, 2009), and many studies have failed to find links between acculturation variables and mental health outcomes for Latino youth, including conduct disorder (Knight, Virdin, & Roosa, 1994), symptoms of anorexia and bulimia (Joiner & Kashubeck, 1996), depression (Katragadda & Tidwell, 1998), suicidal ideation (Rasmussen, Negy, Carlson, & Burns, 1997) and attempts (Zayas, Bright, Alvarez-Sanchez, & Cabassa, 2009), and self-esteem (Knight et al., 1994). Additionally, there is evidence that biculturalism may be protective for adolescents, as it is linked to positive outcomes, including fewer internalizing problems, higher self-esteem (Smokowski & Bacallao, 2007), and higher academic and peer competence (Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005), suggesting that biculturalism may give adolescents the ability to access resources from both cultures, allowing them to be more successful (Smokowski & Bacallao, 2009).

### **Latino parental mental health.**

While research has examined the link between acculturation and mental health for Latino adults, few studies examine this link in context of the family, looking specifically at Latino parents. Results of studies examining the acculturation-mental health link in the Latino adult population also have found a relationship between more acculturation or orientation with U.S. culture and poorer mental health outcomes, including higher substance use and dependence (Vega, Alderte, Kolody, & Aguilar-Gaxiola, 1998), eating disorder symptoms (Bettendorf & Fischer, 2009; Chamorro & Flores-Ortiz, 2000; Franko & Herrera, 1997), and depression (Cuellar, Bastida, & Braccio, 2004; Heilemann, Frutos, Lee, & Kury, 2004; Martinez-Schallmoser, Telleen, & Macmullen, 2003; Ramos, 2005). However, similar to the adolescent literature, there are inconsistencies in these findings. For example, several studies have found that more acculturation to U.S. culture is related to less anxiety (Cintrón, Carter, Suchday, Sbrocco, & Gray, 2005) and fewer depressive symptoms (Newcomb & Vargas Carmona, 2004). In addition, as with the adolescent literature, many studies have failed to find a relationship between acculturation and mental health outcomes (e.g., Kuo et al., 2004; Robinson Shurgot, & Knight, 2004). Additionally, a recent meta-analysis suggests that biculturalism is strongly associated with positive psychological adjustment for Latino adults (Nguyen & Benet-Martinez, 2013).

Only one study has specifically examined Latino family mental health. Ayon, Marsiglia, & Bermudez-Parsai (2010) studied the role of discrimination and familism in depression among Latino youth and one of their parents. They found that for parents, higher familism predicted fewer depressive symptoms but discrimination was not a

significant predictor; for adolescents, familism was negatively related and discrimination was positively related to depressive symptoms.

### **Limitations.**

Given the inconsistencies in findings relating to the acculturation-mental health link, several limitations in this area of research should be noted. First, the measurement of acculturation is highly variable across studies, ranging from single-item scales to multiple-item bidirectional scales (see Cabassa, 2003; Chun & Akutsu, 2003; Lopez-Class, Castro, & Ramirez, 2011 for discussion). In addition, many studies utilize proxy measures of acculturation (Koneru, Weisman de Mamani, Flynn, & Betancourt, 2007), including nativity status, generational status, time spent in the U.S., and language use and preference, which do not fully capture the complex construct of acculturation. Proxy measures predict less variance than bidirectional measures (Ryder, Alden, & Paulhus, 2000) and account for limited variance in more sophisticated measures of acculturation (Schwartz, Pantin, Sullivan, Prado, & Szapocznik, 2006). Additionally, little attention has been paid to mechanisms of the relationship, such as mediating and moderating variables (Nguyen, 2006), as well as the context of the family. For example, understanding family functioning and family conflict regarding acculturation may help to explain why increased contact with U.S. culture may lead to negative mental health outcomes.

### **Family Factors and Latino Mental Health**

Research has demonstrated that family factors have important implications for the mental health of Latino families and has identified family protective factors and risk factors for mental health outcomes in Latino adolescents. Supportive parenting practices

are likely to be protective, as they are related to lower levels of depression and conduct disorder (Bámaca-Colbert & Gayles, 2010; Dumka, Roosa, & Jackson, 1997; Gonzales, Deardorff, Formoso, Barr, & Barrera, 2006) and higher life satisfaction (Edwards & Lopez, 2006) in Latino adolescents. Additional factors that may protect against externalizing problems include parental involvement and parent-child communication (Davidson & Cardemil, 2009), parental monitoring (Samaniego & Gonzales, 1999), and family cohesion (Marsiglia, Parsai, & Kulis, 2009).

On the other hand, family conflict is a risk factor for externalizing problems in adolescents, including anger (Pasch et al., 2006), aggression (Smokowski & Bacallao, 2006), conduct problems and deviant behavior (Gonzales et al., 2006; McQueen et al., 2003; Lau et al., 2005), school misconduct (Pasch et al., 2006), and substance use (McQueen et al., 2003; Pasch et al., 2006), as well as internalizing problems, including anxiety and depression (Bámaca-Colbert & Gayles, 2010; Gonzales et al., 2006; Pasch et al., 2006; Smokowski & Bacallao, 2007). Unfortunately, no research has examined how family factors influence mental health outcomes for Latino parents.

Given the impact of family functioning on mental health for Latino families, it is important to consider the role of acculturation. There is evidence that acculturation influences family functioning, suggesting that the family may be an important mechanism for understanding the link between acculturation and mental health in Latino families. For example, more acculturation or orientation to U.S. culture in adolescents is associated with increased family conflict (McQueen et al., 2003), whereas more orientation to Latino culture and biculturalism are related to less family conflict (Smokowski & Bacallao, 2006), increased parental involvement and support (Sullivan et al., 2007), and

increased family cohesion and adaptability (Smokowski, Rose, & Bacallao, 2008). Although limited, research also suggests that parental acculturation is a key factor in family functioning; Knight and colleagues (1994) found that mothers' level of acculturation is positively related to their reports of family adaptability and family cohesion.

### **Acculturation Differences within the Family**

In an effort to understand the mixed findings linking acculturation and mental health outcomes for Latino families, researchers have begun to examine mechanisms that may help to clarify previous research. Examining acculturation differences within the family allows us to look at acculturation and mental health in the context of the family. Given that acculturation results in changes in behavior, values, and identifications (Schwartz et al., 2010), differences in these cultural aspects between adolescents and their parents may be problematic. Theoretical models suggest that within immigrant families, intergenerational conflict may occur when younger members of the family adjust and acculturate to the host culture more quickly than older family members, potentially leading to incongruent values between family members and family conflict, and exacerbating normative family struggles that often occur during adolescence (Szapocznik et al., 1984; Szapocznik & Kurtines, 1993; Hwang & Wood, 2009).

Empirical work examining acculturation gaps in Latino families have focused solely on adolescent outcomes and have found mixed support for this theoretical model, often depending on analytic approach. Several studies have found links between adolescent perceptions of acculturation gaps or acculturation conflict and aggression (Smokowski & Bacallao, 2006) and depression and distress (Hwang & Wood, 2009); in

both cases, the relationship was mediated by family conflict. Another study found that perceived discrepancies in beliefs about gender roles, but not perceptions of an acculturation gap, are related to adolescent depression (Cespedes & Huey, 2008), suggesting that how cultural orientation influences beliefs and expectations of others may be more important than simply differences in acculturation. Additionally, one study using difference scores found evidence that gaps in U.S. acculturation between adolescents and parents are related to increased adolescent substance use and that the relationship was mediated by family stress and parenting practices (Martinez, 2006). Finally, Lau and colleagues (2005) found evidence that acculturation “mismatches” between parent and adolescent, in which the parent is more acculturated to U.S. culture than the adolescent, leads to adolescent conduct problems. In contrast, studies by Davidson & Cardemil (2009), Pasch et al. (2006), and Smokowski et al. (2008) did not find evidence of a link between acculturation gaps, family functioning, and mental health outcomes for Latino adolescents.

The mixed findings regarding acculturation gaps and family and mental health outcomes for Latino families suggest several conclusions. First, the way in which acculturation gaps are measured is important, and these findings indicate that family members’ perceptions of acculturation gaps/acculturation conflicts may be more meaningful in predicting family and mental health outcomes than statistical differences. In addition, in light of the findings of Lau and colleagues (2005), research on acculturation gaps in Latino families should examine multiple variations of the acculturation gap, such as when a parent is more acculturated to U.S. culture than the adolescent (also see Telzer, 2011 for a review). Also, despite numerous studies

examining the acculturation gap and outcomes for Latino adolescent, no studies have examined mental health outcomes for parents and more research is needed to address this gap in the literature.

### **Current Study**

Understanding the acculturation processes of Latino adolescents and their families is crucial to addressing the mental health disparities that exist in our country. Although the existing research provides a good foundation for understanding Latino family mental health, limitations in the measurement of acculturation and acculturation differences have resulted in some conflicting findings. In order for psychologists to identify methods for intervention, more research is needed to determine specific mechanisms that may account for the relationship between acculturation and mental health problems in Latino families. Family processes, including intergenerational acculturation differences and family functioning, may be especially important for understanding this link. The current study sought to extend previous work in several ways. First, we used comprehensive measures of acculturation that were completed by adolescents and their parents, as well as measures of perceptions of acculturation conflict. We also extended previous work by examining other measures of family functioning, including communication and satisfaction, which were completed by the adolescent and their parent. Finally, we sought to examine Latino family mental health contextually by including measures of parental mental health and using multiple informants to measure adolescent mental health.

The goal of the current study was to examine how acculturation, specifically acculturation differences and acculturation conflict, relates to mental health in Latino families. The first hypothesis was that family functioning would mediate the relationship

between acculturation differences and (a) internalizing problems for adolescents, (b) externalizing problems for adolescents, and (c) mental health outcomes for parents. Specifically, it was predicted that greater acculturation differences would be associated with decreased family functioning, which would be associated with increased mental health problems in adolescents and parents. The second hypothesis was that acculturation conflict would moderate the strength of the mediated relationship between acculturation differences and (a) internalizing problems for adolescents, (b) externalizing problems for adolescents, and (c) mental health outcomes for parents, via family functioning, such that the mediated relationship would be weaker for low acculturation conflict.

## Methods

### Participants

Participants in the current study included 84 parent-adolescent dyads recruited through three bilingual middle schools. Demographic data for adolescents and parents are presented in Tables 1 and 2, respectively. The majority of adolescents were born in the U.S. (65%) and were bilingual (80%); the mean age of adolescents was 12.12 (1.04). There were slightly more females than males (53% vs. 47%). The majority of parents who participated were female (83%), married (77%), and had been living in the U.S. for more than 10 years (77%). The majority of parents (81%) were first generation immigrants, and the majority of adolescents were second generation (60%).

Table 1

#### *Adolescent Demographics*

Age, <i>M (SD)</i>	12.12	1.04
Gender, <i>n (%)</i>		
Female	44	53.0
Male	39	47.0
Grade, <i>n (%)</i>		
5 <sup>th</sup>	11	13.3
6 <sup>th</sup>	26	31.3
7 <sup>th</sup>	22	26.5
8 <sup>th</sup>	21	25.3
9 <sup>th</sup> or higher	3	3.6
Country of origin, <i>n (%)</i>		
Mexico	14	16.9
Puerto Rico	4	4.8
U.S.	54	65.1
Generational status		
First	16	19.3

Second	50	60.2
Third	4	4.8
Language, <i>n</i> (%)		
Bilingual	66	79.5
Primarily English, some Spanish	10	12.1
Only English	7	8.4

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N = 70-83 due to missing data

Table 2

*Parent Demographics*

Age, <i>M</i> ( <i>SD</i> )	38.72	5.61
Gender, <i>n</i> (%)		
Female	70	83.3
Male	14	16.7
Marital status, <i>n</i> (%)		
Married	65	77.4
Unmarried	19	22.6
Education, <i>n</i> (%)		
Less than high school	21	25.0
Some high school	9	10.7
Graduated high school or GED	25	29.8
Some college or specialized training	9	10.7
College or graduate degree	18	21.4
Income, <i>n</i> (%)		
Less than \$20,001	23	27.4
\$20,001 – 40,000	26	31.0
\$40,001 – 60,000	11	13.1
\$60,001 – 80,000	11	13.1
\$80,001-100,000	4	4.8
More than \$100,000	4	4.8
Country of origin, <i>n</i> (%)		
Mexico	62	73.8
Puerto Rico	4	4.8
U.S.	14	16.7
Other	2	2.4
Generational status		
First	68	81.0
Second	11	13.1
Third	3	3.6
Time in US, <i>n</i> (%)		

1-5 years	0	0.0
6-10 years	3	3.6
More than 10 years	65	77.4
Born in US	14	16.7
Language, <i>n</i> (%)		
Only Spanish	17	20.2
Primarily Spanish, some English	32	38.1
Bilingual	28	33.3
Primarily English, some Spanish	2	2.4
Only English	4	4.8

---

N = 79-84 due to missing data

### Recruitment

Recruitment took place at the middle schools. The research team attended school events (e.g., back-to-school night, parent-teacher conferences), during which they distributed letters describing the study and collected contact information of interested families. Families were then contacted to confirm eligibility and schedule a time to participate. Data collection occurred at each school after the school day had ended. To be included in the study, the adolescents needed to be between 11 and 17 years of age, identify as Latino, and have one parent agree to participate, who also identified as Latino.

### Procedure

The current study was part of a larger study on mental health in Latino families. After families arrived, written informed consent was obtained from parents and written assent was obtained from adolescents. As part of the informed consent process, parents were given the option of allowing or not allowing the research team to contact one of their adolescent's teachers. Following the consent process, parents and adolescents independently completed a packet of paper and pencil questionnaires assessing mental health, acculturation, cultural values, and family functioning. All measures were

randomized and counter-balanced. Participants were able to seek help or clarification from a bilingual research assistant, if needed. The questionnaires were available in English and Spanish. Participants were compensated for their participation (parents and adolescents received a \$10 and \$5 gift cards, respectively). In addition, all families received a list of referrals for community resources and mental health services.

If parents granted the research team permission to contact their adolescent's teacher, they were asked to provide the name of the teacher. When data collection was finished at each school, all of the teachers' names were provided to the schools' principals. The principals first asked the teachers if they are willing to complete two questionnaires about one or more of their students. If they agreed, the research team provided the principals with a packet of information containing a teacher letter, the student's name, and the questionnaires. Teachers received \$5 compensation for each student they completed measures for to be used toward purchases in their classroom.

### **Measures**

Adolescents completed a revised version of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II), the Mexican American Cultural Values Scale for Adolescents and Adults (MACVS), acculturation conflict items, the Family Adaptability and Cohesion Evaluation Scale-IV (FACES-IV), the Youth Self Report/11-18 (YSR), and a demographic questionnaire. Parents completed the ARMSA-II, MACVS, acculturation conflict items, FACES-IV, Child Behavior Checklist (CBCL/6-18), Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI), and a demographic questionnaire. Teachers completed the Teacher Report Form/6-18 (TRF). All measures were available in both English and Spanish.

**ARSMA-II** (Cuellar, Arnold, & Maldonado, 1995).

The ARSMA-II is a bidirectional measure of acculturation that measures an individual's Mexican orientation (Mexican Orientation Subscale [MOS]) and Anglo orientation (Anglo Orientation Subscale [AOS]). The measure consists of 30 items that assess language use and preference, ethnic identity and classification, and ethnic interaction and is available in both English and Spanish. The 30 items are measured on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely often or almost always).

Cuellar et al. (1995) reported split-half reliability of .77 for the AOS and .84 for MOS and coefficient alphas of .83 for the AOS and .88 for the MOS. Concurrent validity was assessed with the original version of the ARSMA, and the two tests obtained a correlation coefficient of .89. Cuellar et al. (1995) also reported good construct validity, demonstrated by the measure's ability to differentiate five generational levels of Mexicans and Mexican Americans. The current study modified the ARSMA-II by substituting "Latino" for "Mexican" or "Mexican American" in an effort to make it more suitable to use with a wider Latino population. This method has been used previously and maintains the psychometric properties of the measure (Lawton, Gerdes, Haack, & Schneider, 2014). The current study used the Latino Orientation Subscale (LOS) and Anglo Orientation Subscale (AOS). For adolescents, reliability in the current study was .86 and .61, for LOS and AOS, respectively. For parents, reliability for the English version was .91 and .74, for English LOS and AOS, respectively. For parents, reliability for the Spanish version was .81 and .83, for Spanish LOS and AOS, respectively.

**MACVS** (Knight et al., 2010).

The MACVS is a 50-item measure of several cultural constructs relevant to Latino and mainstream American culture and is available in both English and Spanish. The scale measures familism, divided into three subscales of familism support (i.e., “parents should teach their children that the family always comes first”), familism obligations (i.e., “children should be taught that it is their duty to care for their parents when their parents get old”), and familism referent (i.e., “children should always do things to make their parents happy”), as well as respect (i.e., “children should respect adult relatives as if they were parents”), religion (i.e., “God is first, family is second”), and traditional gender roles (i.e., “families need to watch over and protect teenage girls more than teenage boys”). These subscales are combined into an overall Mexican American values scale. The scale also measures mainstream values of material success, independence and self-reliance, and competition and personal achievement that are combined into an overall mainstream values scale. Items are measured on a 5-point Likert scale ranging from 1 (not at all) to 5 (completely).

The MACVS has shown good psychometric properties; Cronbach’s alphas are .79 for both mothers and fathers for the composite of the familism subscales, .88 for both on the overall Mexican American values scale, and .81 and .82 for mothers and fathers, respectively, on the overall mainstream values scale. The measure also has demonstrated adequate construct validity, as it is related to several similar constructs, such as ethnic pride, ethnic socialization, and country of origin (Knight et al., 2010). Despite the name of the measure, specific questions do not specify a particular Latino group (i.e., Mexican), and therefore the measure is likely acceptable to use with a wide Latino population. The current study used the overall Latino values scale (LAV) and the overall

mainstream American values scale (AV). For adolescents, reliability in the current study was .94 and .83, for LAV and AAV, respectively. For parents, reliability for the English version was .84 and .81, for English LAV and AAV, respectively. For parents, reliability for the Spanish version was .91 and .75, for Spanish LAV and AAV, respectively.

### **Acculturation Conflict.**

Acculturation conflict was measured using a 4-item scale that has been used in previous research (e.g., Smokowski et al., 2010; Vega, Khoury, Zimmerman, Gil, & Warheit, 1995). Responses were measured on a 5-point Likert scale from *not at all* to *frequently*. Items included (a) How often have you had problems with your family because you prefer American customs; (b) How often do you think that you would rather be more American if you had a chance; (c) How often do you get upset at your parents because they don't know American ways (not included in parent version); (d) How often do you feel uncomfortable having to choose between non-Latin and Latin ways of doing things. Internal consistency has been shown to be .76 for adolescents and .87 for parents (Smokowski et al., 2010). The current study used the mean of these items. For adolescents, reliability in the current study was .85. For parents, reliability for the English and Spanish versions of the measures was .87 and .85, respectively.

### **FACES-IV (Olson, 2006).**

FACES-IV is a 62-item self-report measure developed to assess family cohesion and family flexibility. The current study examined two subscales, the Family Satisfaction Scale and the Family Communication Scale. The Family Satisfaction Scale is 10 items that assesses the rater's satisfaction with family cohesion and adaptability. It has shown

good reliability within an English-speaking Latino population, with a coefficient alpha of .95 (Groenenberg, Sharma, Green, & Fleming, 2013). The current study used the mean of these items. The Family Communication Scale is 10 items that assesses communication within the entire family. It has shown good reliability within an English-speaking Latino population, with a coefficient alpha of .92 (Groenenberg et al., 2013). The Spanish translation of the FACES-IV has demonstrated suitable convergent, concurrent, and content validity (Rivero, Martínez-Pampliega, & Olson, 2010). Sanz, Iraurgi, and Martínez-Pampliega (2002 as cited in Rivero et al., 2010) reported the reliability of the Spanish Family Satisfaction Scale was .92. For adolescents, reliability in the current study was .86 and .90, for communication and satisfaction, respectively. For parents, reliability for the English version was .81 and .94, for English communication and satisfaction, respectively. For parents, reliability for the Spanish version was .91 and .95, for Spanish communication and satisfaction, respectively.

**YSR/11-18** (Achenbach & Rescorla, 2001).

The YSR/11-18 is a 112-item self-report measure that assesses a wide range of emotional and behavioral problems in children and adolescents using a 3 point scale. Raters choose whether each item is *not true* (0), *somewhat or sometimes true* (1), or *very true* (2). Scores result in a range of syndrome scales, DSM-oriented scales, and broad internalizing, externalizing, and total problems scores. The measure has demonstrated good reliability and validity; internal consistency for the English version is good, with Cronbach's alphas of .90 for the internalizing scale, .90 for the externalizing, and .95 for the total problems scale. Test-retest reliability is .95. Additionally, Achenbach and Rescorla (2001) state that the validity is supported by significant discrimination of

clinically referred and nonreferred children, as well as significant associations with other measures assessing the same constructs and with DSM criteria. The current study examined the Total Internalizing and Total Externalizing subscales.

### **Demographic questionnaire.**

A demographics questionnaire was administered to both adolescents and parents to collect general information about each participant, such as age, gender, generational status, educational attainment.

**CBCL/6-18** (Achenbach & Rescorla, 2001; Spanish translation by Rubio-Stipec, Bird, Canino, & Gould, 1990).

The CBCL/6-18 is a 113-item parent-report measure that assesses a wide range of emotional and behavioral problems in children and adolescents using a 3 point scale. Raters choose whether each item is *not true* (0), *somewhat or sometimes true* (1), or *very true* (2). Scores result in a range of syndrome scales, DSM-oriented scales, and broad internalizing, externalizing, and total problems scores. The measure has demonstrated good reliability and validity; internal consistency for the English version is good, with Cronbach's alphas of .90 for the internalizing scale, .94 for the externalizing, and .97 for the total problems scale. Additionally, Achenbach and Rescorla (2001) state that the validity is supported by significant discrimination of clinically referred and nonreferred children, as well as significant associations with other measures assessing the same constructs and with DSM criteria. The Spanish version also demonstrates good reliability, with Cronbach's alphas ranging from .89-.94 and concurrent validity, as high scores are

associated with high probability of diagnosis by a psychiatrist (Rubio-Stipeć et al., 1990). The current study examined the Total Internalizing and Total Externalizing subscales.

**BDI-II** (Beck, Steer, & Brown, 1996).

The BDI-II is a 21-item self-report measure that assesses symptoms of depression. Each item has four choices, and respondents are asked to choose which statement best describes the way they have been feeling for the past two weeks. The BDI-II has demonstrated strong psychometric characteristics. Internal consistency is good, with coefficient alphas of .92 for outpatients and .93 for non-patient samples. Construct validity has been supported through significant correlations with the previous version of the BDI, as well as other measures assessing similar constructs (Beck et al., 1996). The Spanish translation has shown strong internal consistency, with Chronbach's alpha of .86, and good test–retest reliability (Wiebe & Penley, 2005). Reliability for the English and Spanish versions of the measures was .93 and .88, respectively.

**BAI** (Beck, Epstein, Brown, & Steer, 1988).

The BAI is a 21-item measure assessing symptoms of anxiety. Each item is rated on a 4-point scale ranging from 0, not at all, 1, mildly, 2, moderately, and 3, severely. The BAI has high internal consistency, with a coefficient alpha of .92. In addition, it is significantly correlated with measures assessing similar constructs and demonstrates significant differences between clinical and nonclinical samples (Beck et al., 1988). The Spanish translation also has demonstrated good psychometric properties; internal consistency has been shown to be .93 (Magán, Sanz, & García-Vera, 2008). Reliability for the English and Spanish versions of the measures was .87 and .86, respectively.

**TRF/6-18** (Achenbach & Rescorla, 2001).

The TRF/6-18 is a 113-item teacher-report measure that assesses a wide range of emotional and behavioral problems in children and adolescents using a 3 point scale. Raters choose whether each item is *not true* (0), *somewhat or sometimes true* (1), or *very true* (2). The measure has demonstrated good reliability and validity; internal consistency for the English version is good, with Cronbach's alphas of .90 for the internalizing scale, .95 for the externalizing, and .97 for the total problems scale. Additionally, Achenbach and Rescorla (2001) state that the validity is supported by significant discrimination of clinically referred and nonreferred children, as well as significant associations with other measures assessing the same constructs and with DSM criteria. The current study examined the Total Internalizing and Total Externalizing subscales.

## Results

### Correlations and Descriptive Results

#### Adolescent variables.

Correlations, means, and standard deviations of all variables are presented in Table 3. Examination of adolescent acculturation variables indicated that adolescents had moderately strong behavioral orientation to both Latino and American culture ( $M = 3.84$ ,  $SD = .69$ ;  $M = 3.87$ ,  $SD = .49$ , respectively). In terms of cognitive orientation, adolescents were strongly oriented to Latino culture ( $M=4.15$ ,  $SD = .51$ ) and moderately oriented to U.S. culture ( $M = 2.80$ ,  $SD = .64$ ). Adolescent reports of family functioning, in terms of communication ( $M = 38.55$ ,  $SD = 6.86$ ) and satisfaction ( $M = 37.89$ ,  $SD = 8.65$ ), indicate high levels of positive communication and moderate levels of satisfaction (Olson, 2010). Given the high correlation between adolescent communication and adolescent satisfaction, these subscales were combined into an adolescent family functioning subscale using the mean of the two subscales ( $M = 38.22$ ,  $SD = 7.16$ ). Across all three reporters, 4-17% of adolescents had clinically elevated levels of internalizing problems, and 1-5% had clinically elevated levels of externalizing problems (see Table 4). Given that parent, teacher, and adolescent reports of adolescent internalizing and externalizing problems were not highly correlated, these reports were not combined. Instead, given that previous research has suggested that adolescents are more valid reporters of their own internalizing problems, whereas parents and teachers are more valid reporters of externalizing problems (Smith, 2007), adolescent-reports of

internalizing problems and parent- and teacher-reports of externalizing problems were used in the analyses.

Table 3

*Correlations and Descriptive Statistics for Study Variables*

Variable <sup>  </sup>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 A LOS	1															
2 A AOS	.14	1														
3 P LOS	.21+	.05	1													
4 P AOS	-.42***	.00	-.11	1												
5 A LAV	.17	.07	.01	-.16	1											
6 A AV	.14	.08	.09	-.09	.20+	1										
7 P LAV	.25*	-.02	.31**	-.06	.33**	.17	1									
8 P AV	.17	.08	.12	-.17	.13	.26*	.57***	1								
9 A ACC	-.18	-.20+	.20+	.01	.02	.13	.08	.27*	1							
10 P ACC	-.13	-.19+	.00	-.04	-.18+	.14	-.12	.19+	.38**	1						
11 A FF	.25*	.25*	-.06	-.06	.47***	.24*	.14	.14	-.26*	-.30**	1					
12 P FF	.25*	.05	.18+	-.15	.25*	-.29**	.29**	.01	-.13	-.44***	.24*	1				
13 YSR-I	.01	-.12	.20+	.04	.03	.03	.17	.16	.40***	.11	-.26*	-.07	1			
14 CBCL-E	.07	-.20+	.08	-.02	-.27*	.19+	.12	.22*	.26*	.34**	-.21+	-.36***	.24*	1		
15 TRF-E	-.13	-.11	-.08	.01	-.37**	.02	.13	.09	-.01	.07	-.25*	-.15	.13	.33**	1	
16 PMH	-.15	.03	-.06	.09	-.03	.27*	-.11	.07	-.09	.21+	.07	-.29**	.15	.22*	-.05	1
N	83	83	84	84	82	82	84	84	82	84	84	84	83	83	71	84
Mean	3.84	3.87	4.21	3.01	4.15	2.80	3.98	2.83	1.66	1.73	38.22	39.21	53.61	45.63	47.35	5.86
SD	.69	.49	.62	.90	.51	.64	.46	.55	.78	.72	7.16	6.31	11.93	9.43	6.90	6.02

<sup>||</sup> A = adolescent variable; P = parent variable; LOS = Latino orientation scale; AOS = U.S. orientation scale; LAV = Latino values scale; AV = U.S. values scale; FF = family functioning; ACC = acculturation conflict; YSR-I = adolescent-reported internalizing symptoms; CBCL-E = parent-reported adolescent externalizing symptoms; TRF-E = teacher-reported adolescent externalizing symptoms, PMH = parental mental health

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$

Table 4

*Clinical Elevations of Adolescent Mental Health Measures*

	Normal (N, (%))	Borderline (N, (%))	Clinically elevated (N, (%))
<b>Adolescent Internalizing Problems</b>			
Self-report (YSR)	47 (56.6)	19 (22.9)	14 (16.8)
Parent-report (CBCL)	61 (73.5)	8 (9.6)	11 (13.3)
Teacher-report (TRF)	64 (77.1)	2 (2.4)	3 (3.6)
<b>Adolescent Externalizing Problems</b>			
Self-report (YSR)	73 (88.0)	3 (3.6)	4 (4.8)
Parent-report (CBCL)	74 (89.2)	5 (6.0)	4 (4.8)
Teacher-report (TRF)	66 (79.5)	3 (3.6)	1 (1.2)
<b>Adolescent Total Problems</b>			
Self-report (YSR)	61 (73.5)	12 (14.5)	9 (10.8)
Parent-report (CBCL)	72 (86.7)	5 (6)	6 (7.2)
Teacher-report (TRF)	66 (79.5)	4 (4.8)	1(1.2)

*Clinical Elevations of Parental Mental Health Measures*

	Minimal (N, (%))	Mild (N, (%))	Moderate (N, (%))	Severe (N, (%))
BAI	63 (75.0)	14 (16.7)	7 (8.3)	0 (0.0)
BDI-II	71 (84.5)	5 (6.0)	6 (7.1)	1 (1.2)

**Parental variables.**

Correlations, means, and standard deviations of all variables are presented in Table 3. Examination of parental acculturation variables indicates that parents were strongly oriented to Latino culture, in terms of behavior ( $M = 4.21$ ,  $SD = .62$ ) and

cognition ( $M = 3.98$ ,  $SD = .46$ ), and had moderate orientation to U.S. culture, in terms of behavior ( $M = 3.01$ ,  $SD = .90$ ) and cognition ( $M = 2.83$ ,  $SD = .55$ ). Parental reports of family functioning, in terms of communication ( $M = 40.02$ ,  $SD = 6.42$ ) and satisfaction ( $M = 38.40$ ,  $SD = 7.00$ ), indicate high levels of positive communication and moderate levels of satisfaction (Olson, 2010). Given the high correlation between parental communication and parental satisfaction, these subscales were combined into a parental family functioning subscale using the mean of the two subscales ( $M=39.21$ ,  $SD = 6.31$ ). Eight percent of parents reported moderate to severe levels of symptoms of anxiety and depression (see Table 4). Given the high correlation between anxiety and depression, these measures also were combined into a parental mental health scale using the mean of the two measures ( $M = 5.86$ ,  $SD = 6.02$ ).

#### **Acculturation and mental health.**

Correlational analyses indicated that there were no significant relationships between any adolescent acculturation variable and adolescent internalizing problems (see Table 3). There was a significant inverse relationship between adolescent Latino cognitive acculturation and parent-reported and teacher-reported externalizing problems ( $r = -.27$ ,  $p \leq .05$ ;  $r = -.37$ ,  $p \leq .01$ ). In addition, there were no significant relationships between any parental acculturation variables and parental mental health.

#### **Acculturation differences.**

Intergenerational acculturation differences were calculated by taking the absolute value of the difference between parent acculturation and adolescent acculturation for each acculturation domain. Means, standard deviations, and correlations for these difference

scores are presented in Table 5. The absolute value was used because the total difference, rather than direction of the difference, was of interest in the current study. This method has been used in previous studies (e.g., Davidson & Cardemil, 2009).

Table 5

*Descriptive Statistics and Correlations for Parent-Adolescent Acculturation Differences*

	AFF	PPF	A ACC	P ACC	YSR-I	CBCL-E	TRF-E	PMH	Mean	SD
Latino Beh <sup>  </sup>	-.19+	-.25*	.32**	.19+	.13	-.10	.14	.16	.68	.58
Latino Cog <sup>  </sup>	-.09	-.20+	-.13	.08	-.18+	.00	-.03	.23*	.46	.36
US Beh <sup>  </sup>	.10	.21+	.04	-.05	-.05	-.10	-.12	-.18+	1.08	.79
US Cog <sup>  </sup>	.01	.09	.08	.03	-.08	-.10	-.13	.21+	.56	.47

<sup>||</sup> LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; AFF = adolescent-reported family functioning; PPF = parent-reported family functioning; A ACC = adolescent acculturation conflict; P ACC = parental acculturation conflict; YSR-I = adolescent-reported internalizing symptoms; CBCL-E = parent-reported adolescent externalizing symptoms; TRF-E = teacher-reported adolescent externalizing symptoms, PMH = parental mental health  
+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$   
N = 83

### Mediation Analyses

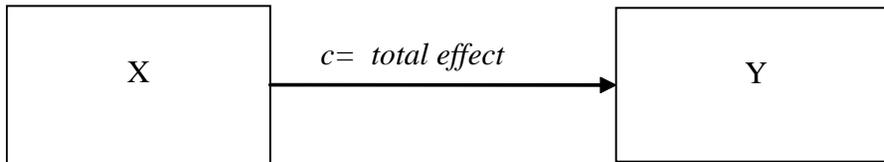
Hypothesis 1 was that family functioning would mediate the relationship between acculturation differences and (a) internalizing problems for adolescents, (b) externalizing problems for adolescents, and (c) mental health outcomes for parents. Specifically, it was predicted that greater acculturation differences would be associated with decreased family functioning, which would be associated with increased mental health problems in

adolescents and parents. To test Hypothesis 1, mediation was examined using several methods. See Figure 1 for conceptual models. First, we used the causal steps method as outlined by Baron and Kenny (1986) to examine the total, direct, and indirect effects of acculturation differences on mental health outcomes via family functioning. Next, we examined the significance of the indirect effects using Sobel's test (Sobel, 1982). Finally, we examined the significance of the indirect effect using bootstrapping procedures (Hayes, 2009; Preacher & Hayes, 2004)

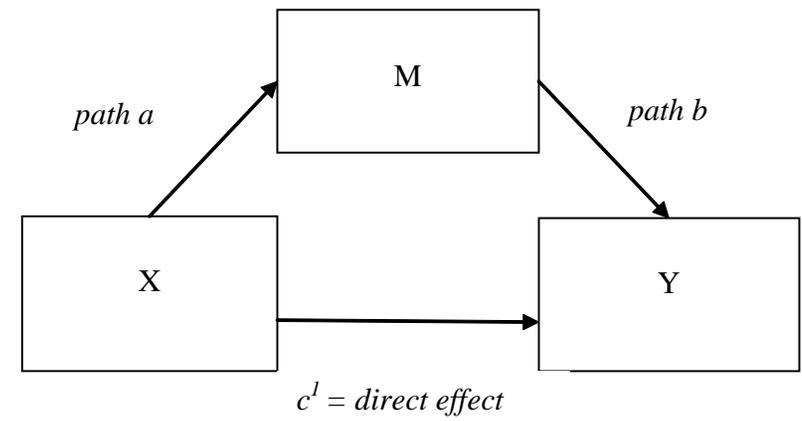
Figure 1

*Conceptual Models*

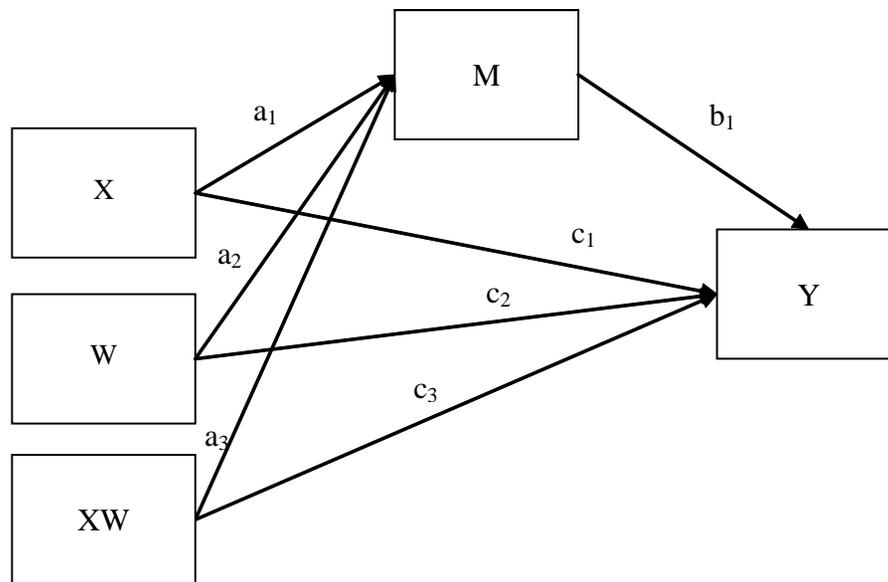
## (A) Total Effects



## (B) Mediation



## (C) Moderated Mediation



### **Adolescent internalizing outcomes.**

#### ***Causal steps method.***

According to this method, several conditions must be met to establish mediation: the independent variable predicts significant variance in the outcome variable (path c), the independent variable predicts significant variance in the mediator (path a), the mediator predicts significant variance in the outcome variable (path b), and when the mediator is controlled for, the relationship between the independent variable and the outcome is reduced (path c<sup>1</sup>). If all conditions are met, mediation has occurred (Baron & Kenny, 1986).

Results for mediation analyses for adolescent internalizing outcome are presented in Table 6. No pathways for adolescent internalizing problems met the criteria for mediation. Only parent-adolescent differences in Latino cognitive acculturation had a marginally significant negative total effect on internalizing problems ( $\beta = -.18, p \leq .10$ ). However, Latino cognitive acculturation differences did not predict significant variance in family functioning and therefore, did not satisfy the second condition. Of note, family functioning predicted significant variance in adolescent internalizing problems in the expected direction ( $\beta = -.26, p \leq .05$ ).

#### ***Sobel's test.***

Mediation also was examined through significance testing of the indirect effect, using Sobel's test (Sobel, 1982). The indirect effect is defined as the product of the unstandardized regression coefficients of the *ab* path (see Figure 1). To test the significance of the indirect effect, the product term is divided by the estimated standard

error to calculate a z-score (see Baron & Kenny, 1986 for more specific information on the equations used). There were no significant indirect

Table 6

*Results of Mediation Analyses for Adolescent Internalizing Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates*

IV	Mediator	DV	Total Effect of IV on DV (c)	Effects of IV on Mediator (a)		Effect of M on DV (b)		Direct Effects (c1)		Indirect Effect (a x b)	95% CI		
				B	Beta	B	Beta	B	Beta		Lower	Upper	
LatinoBeh <sup>  </sup>	Fam Fx <sup>  </sup>	YSR-I <sup>  </sup>	2.66	.13	-2.31+	-.19+	-.43*	-.26*	1.72	.08	.67+	-.00	2.85
LatinoCog <sup>  </sup>	Fam Fx	YSR-I	-6.05+	-.18+	-1.75	-.09	-.43*	-.26*	-6.86+	-.21+	.81	-1.27	4.00
US Beh <sup>  </sup>	Fam Fx	YSR-I	-.70	-.05	.88	.10	-.43*	-.26*	-.33	-.02	-.41	-1.58	.34
US Cog <sup>  </sup>	Fam Fx	YSR-I	-1.97	-.08	.09	.01	-.43*	-.26*	-1.93	-.08	-.33	-2.06	1.47

<sup>||</sup> LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = adolescent-reported family functioning; YSR-I = adolescent-reported internalizing symptoms

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$

N = 83

effects of acculturation differences on adolescent internalizing problems via family functioning (see Table 6).

***Bootstrapping procedures.***

Some researchers have suggested that this method is potentially limited by its assumption that the distribution of  $ab$  is normal (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2004) and have recommended using bootstrapping procedures to determine the 95% confidence interval in which the indirect effect falls as a means of determining the significance. Bootstrapping draws a large number of samples, with replacement, from the dataset and calculates the indirect effect, which is tested against the null hypothesis that the indirect effect is zero. The confidence interval produced by the bootstrapping procedure is examined and if zero is not included within the confidence interval, the indirect effect is considered significant, and it is concluded that mediation is present (Preacher & Hayes, 2004). Bias-corrected bootstrapping procedures indicated no significant indirect effects of acculturation differences on adolescent internalizing problems via family functioning (see Table 6).

**Adolescent externalizing outcomes.**

***Causal steps method.***

Results for mediation analyses for adolescent externalizing outcomes are presented in Table 7. No pathways for adolescent externalizing problems met the criteria for mediation. No acculturation differences had significant direct effects on parent – or teacher- reported adolescent externalizing problems. Of note, family functioning predicted significant variance in teacher-reported adolescent externalizing problems in

the expected direction ( $\beta = -.24, p \leq .05$ ) and accounted for marginally significant variance in parent-reported externalizing problems ( $\beta = -.27, p \leq .10$ ).

Table 7

*Results of Mediation Analyses for Adolescent Externalizing Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates*

IV	Mediator	DV	Total Effect of IV on DV (c)		Effects of IV on Mediator (a)		Effect of M on DV (b)		Direct Effect (c1)		Indirect Effect (a x b)	95% CI	
			B	Beta	B	Beta	B	Beta	B	Beta		Lower	Upper
LatinoBeh <sup>  </sup>	Fam Fx <sup>  </sup>	CBCL-E <sup>  </sup>	-1.55	-.10	-2.31+	-.19+	-.27+	-.21+	-2.25	-.14	.70	-.04	2.48
	Fam Fx	TRF-E <sup>  </sup>	1.56	.14	-2.31+	-.19+	-.24*	-.25*	1.12	.10	.44	-.04	1.71
LatinoCog <sup>  </sup>	Fam Fx	CBCL-E	.08	.00	-1.75	-.09	-.27+	-.21+	-.42	-.02	.49	-.57	3.43
	Fam Fx	TRF-E	-.54	-.03	-1.75	-.09	-.24*	-.25*	-1.08	-.06	.54	-.60	3.04
US Beh <sup>  </sup>	Fam Fx	CBCL-E	-1.19	-.10	.88	.10	-.27+	-.21+	-.96	-.08	-.23	-1.36	.18
	Fam Fx	TRF-E	-1.03	-.12	.88	.10	-.24*	-.25*	-.83	-.10	-.21	-1.10	.17
US Cog <sup>  </sup>	Fam Fx	CBCL-E	-2.12	-.10	.09	.01	-.27+	-.21+	-2.10	-.10	-.02	-1.24	1.35
	Fam Fx	TRF-E	-1.82	-.13	.09	.01	-.24*	-.25*	-1.84	-.13	.02	-1.16	1.31

<sup>||</sup> LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = adolescent-reported family functioning; CBCL-E = parent-reported adolescent externalizing symptoms; TRF-E = teacher-reported adolescent externalizing symptoms  
+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$

N = 83 for results with CBCL; N = 70 for results with TRF

***Sobel's test.***

Mediation also was examined through significance testing of the indirect effect, using Sobel's test. There were no significant indirect effects for acculturation differences on adolescent externalizing problems via family functioning (see Table 7).

***Bootstrapping procedures.***

In addition, bias-corrected bootstrapping procedures indicated no significant indirect effects of for acculturation differences on adolescent internalizing problems via family functioning (see Table 7).

**Parental outcomes.**

***Causal steps method.***

Results for mediation analyses for parental outcomes are presented in Table 8. Parent-adolescent differences in Latino cognitive acculturation had a significant, positive total effect on parental mental health outcomes ( $\beta = .23, p \leq .05$ ), and U.S. behavioral and U.S. cognitive acculturation differences had marginally significant total effects on parental mental health outcomes ( $\beta = -.18, p \leq .10$ ;  $\beta = .21, p \leq .10$ , respectively). Thus, Latino cognitive, U.S. behavioral, and U.S. cognitive acculturation differences satisfy the first condition. Of these, Latino cognitive acculturation differences and U.S. behavioral differences satisfy the second condition. Latino cognitive acculturation differences had a marginally significant negative relationship with family functioning ( $\beta = -.20, p \leq .10$ ), and U.S. behavioral acculturation differences had a marginally significant positive relationship with family functioning ( $\beta = .21, p \leq .10$ ). Additionally, family functioning

predicted significant variance in parental mental health ( $\beta = -.28, p \leq .05$ ), satisfying the third condition. Finally, for both Latino cognitive and U.S. behavioral acculturation differences, their relationship with parental mental health outcomes was reduced after controlling for the effect of family functioning.

Table 8

*Results of Mediation Analyses for Parental Outcomes: Causal Steps, Indirect Effects and 95% Confidence Interval for Bootstrapping Estimates*

IV	Mediator	DV	Total Effect of IV on DV (c)		Effects of IV on Mediator (a)		Effect of M on DV (b)		Direct Effect (c1)		Indirect Effect (a x b)	95% CI	
			B	Beta	B	Beta	B	Beta	B	Beta		Lower	Upper
LatinoBeh <sup>  </sup>	Fam Fx <sup>  </sup>	Par MH <sup>  </sup>	1.61	.16	-2.71*	-.25*	-.28*	-.30*	.94	.09	.67+	<b>.10</b>	<b>1.82</b>
LatinoCog <sup>  </sup>	Fam Fx	Par MH	3.74*	.23*	-3.46+	-.20+	-.28*	-.30*	2.93	.18	.81	-.03	2.59
US Beh <sup>  </sup>	Fam Fx	Par MH	-1.38+	-.18+	1.67+	.21+	-.28*	-.30*	-.98	-.13	-.41	<b>-1.22</b>	<b>-.02</b>
US Cog <sup>  </sup>	Fam Fx	Par MH	2.72+	.21+	1.16	.09	-.28*	-.30*	3.05*	.24*	-.33	-1.46	.44

<sup>||</sup> LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = parent-reported family functioning; Par MH = parent self-reported mental health symptoms

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$

N = 84

### *Sobel's test.*

Mediation also was examined through significance testing of the indirect effect, using Sobel's test. The indirect effect for Latino behavioral acculturation differences predicting parental mental health outcomes via family functioning was marginally significant (indirect effect = .67,  $p \leq .10$ ; see Table 8).

### *Bootstrapping procedures.*

Additionally, results of bias-corrected bootstrapping procedures indicated that the indirect effect of Latino behavioral acculturation difference and of U.S. behavioral acculturation differences on parental mental health via family functioning were significant (95% confidence interval = .10 to 1.82; -1.22 to -.02, respectively; see Table 8).

### **Moderated Mediation Analyses**

The second hypothesis was that acculturation conflict would moderate the strength of the mediated relationship between acculturation differences and (a) internalizing problems for adolescents, (b) externalizing problems for adolescents, and (c) mental health outcomes for parents, via family functioning, such that the mediated relationship would be weaker for low acculturation conflict. To test Hypothesis 2, moderated mediation analyses were conducted following guidelines outlined in Preacher, Rucker, and Hayes (2007). See Figure 1 for conceptual model. See Tables 9-11 for results of adolescent internalizing outcomes, adolescent externalizing outcomes, and parental outcomes, respectively.

Table 9

*Results of Moderated Mediation Analyses for Adolescent Internalizing Outcomes Across Levels of Acculturation Conflict*

IV	Mediator	DV	Level of Acculturation Conflict	Conditional indirect effect	SE	z	p	95% CI Lower	Upper
Latino Bx	Fam Fx	YSR-I	Low	.98	.98	1.00	.32	-.59	3.87
			High	.25	.45	.56	.58	-.31	2.88
LatinoCog	Fam Fx	YSR-I	Low	-.44	1.24	-.36	.72	-5.42	2.00
			High	2.05	1.79	1.15	.25	-.68	7.63
US Bx	Fam Fx	YSR-I	Low	-.32	.53	-.60	.55	-2.05	.30
			High	-.19	.61	-.32	.75	-2.42	.46
US Cog	Fam Fx	YSR-I	Low	-.55	.79	-.70	.48	-4.00	.69
			High	.20	.55	.36	.72	-.65	3.15

|| LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = adolescent -reported family functioning; YSR-I = adolescent -reported internalizing symptoms

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$

N = 83

Table 10

*Results of Moderated Mediation Analyses for Adolescent Externalizing Outcomes Across Levels of Acculturation Conflict*

IV	Mediator	DV	Level of Acculturation Conflict	Conditional indirect effect	SE	z	p	95% CI Lower	Upper
Latino Bx	Fam Fx	CBCL-E	Low	.92	.83	1.10	.27	-.49	3.55
			High	.23	.40	.60	.55	-.28	2.37
	Fam Fx	TRF-E	Low	.83	.70	1.18	.24	-.13	2.83
			High	.32	.42	.76	.45	-.19	2.42

LatinoCog	Fam Fx	CBCL-E	Low	-0.31	.93	-.34	.74	-3.63	1.22
			High	1.44	1.42	1.01	.31	-1.11	6.82
	Fam Fx	TRF-E	Low	-.27	1.16	-.23	.82	-3.60	2.56
			High	1.84	1.43	1.28	.20	<b>.19</b>	<b>6.10</b>
US Bx	Fam Fx	CBCL-E	Low	-.21	.39	-.54	.59	-1.94	.23
			High	-.13	.43	-.29	.77	-1.83	.30
	Fam Fx	TRF-E	Low	-.33	.46	-.73	.47	-1.57	.26
			High	-.09	.52	-.17	.87	-1.46	.61
US Cog	Fam Fx	CBCL-E	Low	-.57	.73	-.78	.43	-3.42	.65
			High	.20	.52	.39	.70	-.58	3.17
	Fam Fx	TRF-E	Low	-.56	.80	-.70	.49	-3.40	1.22
			High	.25	.62	.41	.68	-.75	2.25

|| LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = adolescent -reported family functioning; CBCL-E = parent-reported adolescent externalizing symptoms; TRF-E = teacher-reported adolescent externalizing symptoms  
+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$   
N = 83 for results with CBCL; N = 70 for results with TRF

### Conditional indirect effects.

Specifically, indirect effects of the hypothesized mediated pathways were compared at high and low levels of the moderator (i.e., acculturation conflict). High and low levels of the moderator were operationalized as +/- 1 standard deviation from the mean. Moderated mediation is examined by testing the significant of the product of  $a_3b_1$ . Results indicate that there were no significant conditional indirect effects for adolescent internalizing (see Table 9), adolescent externalizing (see Table 10), or parental (see Table 11) outcomes.

Table 11

*Results of Moderated Mediation Analyses for Parental Outcomes Across Levels of Acculturation Conflict*

IV	Mediator	DV	Level of Acc Conflict	Condition- al indirect effect	SE	z	p	95% CI	
								Lower	Upper
Latino Bx <sup>  </sup>	Fam Fx <sup>  </sup>	Par MH <sup>  </sup>	Low	.58	.56	1.03	.30	-.07	2.25
			High	.28	.40	.71	.48	-.21	1.59
LatinoCog <sup>  </sup>	Fam Fx	Par MH	Low	.55	.64	.85	.40	-.18	2.78
			High	.63	.69	.92	.36	-.20	3.24
US Bx <sup>  </sup>	Fam Fx <sup>  </sup>	Par MH <sup>  </sup>	Low	-.44	.36	1.21	.23	-1.56	.01
			High	-.16	.29	-.55	.58	-1.17	.27
US Cog <sup>  </sup>	Fam Fx	Par MH	Low	-.08	.57	-.15	.88	-1.43	.94
			High	-.65	.70	-.94	.35	-3.22	.34

<sup>||</sup> LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Fam Fx = parent-reported family functioning; Par MH = parent self-reported mental health symptoms

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$

N = 84

### **Bootstrapping procedures.**

In addition, bias-corrected bootstrapping procedures with 5000 resamples were utilized to calculate 95% confidence intervals of the indirect effect at each level of the moderator. One confidence interval excluded zero, suggesting the presence of a significant conditional indirect effect for Latino cognitive acculturation, according to this method, on teacher-reported externalizing problems via family functioning at high levels of acculturation conflict (conditional indirect effect = 1.84; 95% CI = .19 to 6.10; see Table 10).

### **Exploratory Post-hoc Analyses**

Given the limited findings for the moderated mediation analyses, additional post hoc analyses were conducted to further examine the role of acculturation conflict (see Table 12). Specifically, acculturation conflict x family functioning interactions on adolescent and parental mental health outcomes were examined using the procedure described by Aiken and West (1991). Variables were centered to avoid potential issues with multicollinearity.

Table 12

*Results of Moderation Analyses for Adolescent and Parental Outcomes*

<i>IV</i>	<i>Moderator</i>	<i>DV</i>	$\beta$ for Main Effect of IV	$\beta$ for Main Effect of Moderator	$\beta$ for Interaction Term
A Fam Fx	A Acc Conf	YSR-I	-0.16	0.39**	0.12
A Fam Fx	A Acc Conf	CBCL-E	-0.15	.023	0.02
A Fam Fx	A Acc Conf	TRF-E	-0.17	-0.02	0.28*
P Fam Fx	P Acc Conf	Par MH	-0.16	0.39*	0.12

|| A = adolescent variable; P = parent variable; LatinoBeh= Latino behavioral acculturation differences; LatinoCog = Latino cognitive acculturation differences; US Beh = U.S. mainstream behavioral acculturation differences; US Cog = U.S. mainstream cognitive acculturation differences; Acc Conf = acculturation conflict; Fam Fx = parent-reported family functioning; YSR-I = adolescent-reported internalizing symptoms; CBCL-E = parent-reported adolescent externalizing symptoms; TRF-E = teacher-reported adolescent externalizing symptoms Par MH = parent self-reported mental health symptoms

+  $p < .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$

N = 83-84

**Adolescent internalizing outcomes.**

Results did not support acculturation conflict as a moderator of the relationship between family functioning and adolescent internalizing problems.

**Adolescent externalizing outcomes.**

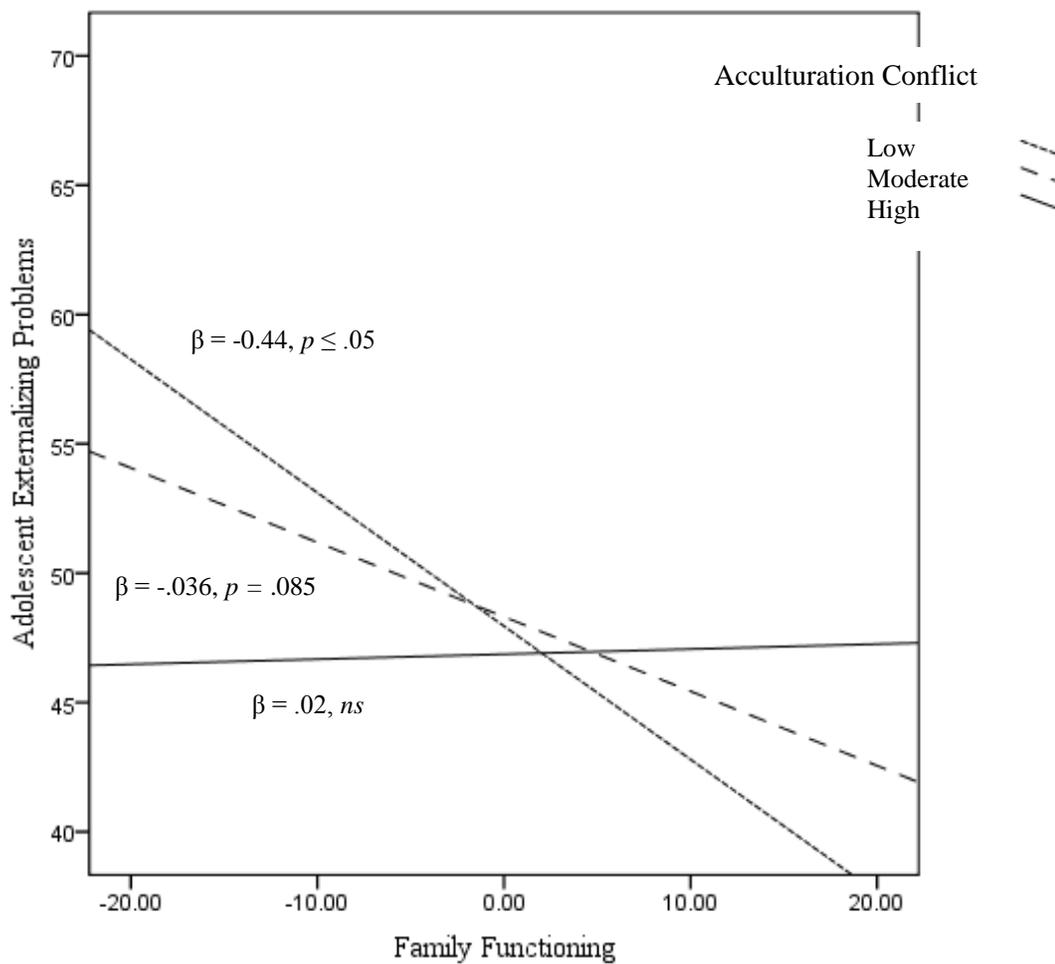
A significant interaction was found for acculturation conflict and family functioning on teacher-reported adolescent externalizing problems ( $F = 3.42, p \leq .05, \beta = .28$ ). See Figure 2. The interaction was plotted and the significances of the slopes were examined. The slope of the regression line of family functioning predicting adolescent externalizing problems at low levels of acculturation conflict was significant ( $\beta = -0.44, p \leq .05$ ). At moderate levels of acculturation conflict, the slope approached significance ( $\beta = -.036, p = .085$ ); at high levels of acculturation conflict, the slope was not significant ( $\beta = .02, ns$ ).

#### **Parental mental health outcomes.**

Results did not support acculturation conflict as a moderator of the relationship between family functioning and parental mental health outcomes.

Figure 2

*Interaction Effects of Family Functioning and Acculturation Conflict on Adolescent Externalizing Problems*



## Discussion

In order to help address the mental health disparities that exist for Latino families in the U.S., the current study sought to examine the acculturation-mental health link within the context of the family and to identify potential mechanisms for intervention to alleviate mental health problems in Latinos. Specifically, our goal was to examine how acculturation differences were related to mental health in Latino families and to understand the role of acculturation conflict and family functioning within the Latino family. We extended previous research on acculturation and acculturation gaps by using more comprehensive measures of acculturation, as well as including measures of acculturation conflict, examining additional family variables of family communication and satisfaction, and exploring Latino family mental health contextually by including measures of parental mental health.

We found partial support for our hypothesis that family functioning mediates the relationship between acculturation differences and mental health outcomes for Latino parents. Additionally, we found partial support for our moderated mediation hypothesis; specifically, a significant conditional indirect effect was found for Latino cognitive acculturation differences on adolescent externalizing problems via family functioning at high levels of acculturation conflict. Exploratory analyses also indicated that acculturation conflict moderates the relationship between family functioning and internalizing and externalizing problems for Latino adolescents.

### Adolescent Mental Health

#### Internalizing problems.

The current study did not find support for mediation or moderated mediation for the effect of acculturation differences on adolescent internalizing problems via family functioning. These findings are consistent with previous studies that have failed to find links between acculturation and internalizing problems (e.g., Joiner & Kashubeck, 1996; Katragadda & Tidwell, 1998; Rasmussen et al., 1997; Zayas et al., 2009), as well as studies that have failed to find significant effects of acculturation gaps on family factors or mental health outcomes (Davidson & Cardemil, 2009; Lau et al., 2005; Pasch et al., 2006; Smokowski et al., 2008). Therefore, our findings add to the growing body of literature that suggests, for adolescents, differences in cultural orientation within the family do not necessarily have negative implications for family functioning or mental health outcomes.

However, given evidence that Latino youth are at as great or greater risk of mental health problems and risky behavior (CDC, 2004) compared to other groups, these null findings suggest the need to identify other factors that may explain this increased risk. Although acculturation differences did not predict mental health outcomes indirectly via family functioning, we found that adolescent-reported acculturation conflict was positively related and family functioning was inversely related to adolescent internalizing problems.

These findings are consistent with previous research in several ways. First, other research has found that positive family functioning, such as supportive parenting practices, is related to less risk for depression in Latino adolescents, whereas family conflict is related to greater risk (Gonzales et al., 2006). In addition, research has found that adolescent perceptions of acculturation differences or conflict are related to negative

outcomes (Smokowski & Bacallao, 2006; Hwang & Wood, 2009). Our findings seem to support researchers who have argued that acculturation conflict may be a more “salient” construct for understanding Latino adolescent outcomes (Smokowski et al., 2008).

Additionally, although the findings regarding acculturation differences and mental health outcomes for adolescents were not significant, the significant effect of acculturation conflict suggests that determining the impact that acculturation has within the family is important. The meaning adolescents and their families make of acculturation differences may be more important for predicting adolescent internalizing outcomes (Davidson & Cardemil, 2009). Acculturation seems to become problematic when it causes difficulties within the family through acculturation conflict.

#### **Externalizing problems.**

Surprisingly, our findings do not support previous research that has shown orientation to U.S. mainstream culture to be a risk factor for externalizing problems (Fridrich & Flannery, 1995; Samaniego & Gonzales, 1999; Sullivan et al., 2007), as U.S. acculturation was not related to mental health outcomes. However, results indicated that Latino cognitive acculturation was protective for adolescents, as it was negatively related to parent- and teacher-reported externalizing symptoms. This finding supports the previous findings that adolescents who maintain traditional Latino cultural values have lower risk for externalizing problems. For example, Gonzalez et al. (2007) also found that endorsement of Latino cultural values was related to fewer externalizing problems among 7<sup>th</sup> graders and that cultural values mediated the relationship between nativity status and externalizing problems.

Additionally, moderated mediation analyses help to further explain this relationship and help to address limitations in previous research examining the acculturation-mental health link by identifying more specifically how acculturation is related to mental health. Our findings suggest that parent-adolescent differences in Latino cognitive acculturation or cultural values affect adolescent externalizing problems indirectly through family functioning, but only at high levels of acculturation conflict. Thus, it appears that acculturation differences are influential for adolescent externalizing behavior and family functioning when conflict regarding these differences is high. Post-hoc analyses indicated that acculturation conflict moderated the relationship between family functioning and parent-reported externalizing problems. Specifically, high levels of acculturation conflict seemed to negate the beneficial effect of family functioning on reducing risk for mental health problems. In other words, a low level of acculturation conflict was a protective factor against externalizing problems for adolescents. Adolescents whose families had high acculturation conflict continued to be a risk for externalizing problems regardless of the family's functioning in terms of communication and satisfaction.

Taken together, the results suggest that orientation to traditional Latino values is important for Latino adolescents' mental health in several ways. First, Latino adolescents own orientation to traditional Latino values may reduce their risk for externalizing problems by giving them access to cultural resources, such as their family and their religion. For example, the cultural value of familism, which emphasizes the central role of the family in an individual's life (Schwartz, 2007) and includes a sense of belonging and attachment to the nuclear and extended family, as well as reliance on the family for

support (Cauce & Domenech-Rodriguez, 2002), may be protective for Latino adolescents. Latino families who value familism may socialize their children in a way that promotes prosocial behavior (Calderón-Tena, Knight, & Carlo, 2011), reducing the risk for deviant behavior and externalizing problems. Familism may also protect Latino adolescents from the negative influence of deviant peer relationships (Germán, Gonzales, & Dumka, 2009). In addition, strong religious beliefs, another aspect of traditional Latino culture, are associated with lower risk for externalizing problems (see Johnson, DeLi, Larson, & McCullough, 2000 for a review). Traditional Latino cultural values also have been shown to help reduce the risk of externalizing problems in the context of discrimination (Berkel et al., 2010).

Our results also suggest that differences between adolescents and their parents in terms of their orientation to Latino cultural values do not necessarily result in problems for adolescents, perhaps because some families expect these differences to occur over time or view these differences positively, such as allowing their adolescent to access mainstream resources (Davidson & Cardemil, 2009). However, when parents and adolescents have high levels of conflict surrounding acculturation, these differences may negatively impact family functioning, which may increase risk for externalizing problems. Previous research has shown parent-adolescent conflict to be a risk factor for externalizing problems (Gonzales et al. 2006; McQueen et al. 2003; Lau et al. 2005; Pasch et al. 2006; Smokowski & Bacallao 2006). Results of post-hoc analyses suggest that acculturation conflict may “undo” the benefits that good family communication and satisfaction have on reducing externalizing behavior.

Additionally, it is interesting that Latino cognitive acculturation was the only acculturation difference type that resulted in a significant conditional indirect effect. This finding may be due to the salience and importance of Latino cultural values for parents and adolescents. Other research has shown that individual family members' orientation to Latino cultural values supports family cohesion (Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012).

### **Parental Mental Health**

Similar to previous studies that have failed to find a link between acculturation and adult mental health outcomes (e.g., Kuo et al., 2004; Shurgot, & Knight, 2004), the current study did not find significant relationships between parental mental health outcomes and any parental acculturation variables. However, through examination of acculturation within the context of the family, specifically parent-adolescent acculturation differences, we found that Latino behavioral and cognitive and U.S. behavioral acculturation differences affect parental mental health outcomes indirectly via family functioning. It appears that, for parents, differences in Latino behavioral and cognitive acculturation resulted in worse family functioning, and poor family functioning resulted in more mental health problems. On the other hand, differences in U.S. behavioral acculturation were related to better family functioning, which was inversely related to mental health.

The different relationships based on acculturation difference type are interesting. It is possible that Latino parents in our sample favored biculturalism in their adolescent. While parents appeared to be negatively affected by differences in Latino orientation, perhaps due to feeling an important identity was rejected by their child (or, given that the

calculation of acculturation differences does not indicate direction of difference, concerns that the adolescent is not orienting to U.S. culture as expected), on the other hand, parents appeared to be positively affected by differences with U.S. behavioral acculturation. It is possible that parents view their adolescent's U.S. orientation as giving them resources to be successful in school and within the larger society (or, for differences in the other direction, that they themselves have access to resources to help their families).

While the current study, to our knowledge, is the first to examine parental mental health in the context of family acculturation, these findings are consistent with previous research that has found family functioning to mediate the relationship between both acculturation and enculturation and adolescent internalizing problems (Lorenzo-Blanco et al., 2012) and previous research that has found links between perceptions of acculturation gaps (Hwang & Wood, 2006) and adolescent mental health outcomes, as well as value discrepancies and adolescent mental health (Stein & Polo, 2014). These findings also support previous research that has found links between acculturation and adult mental health outcomes for Latinos (e.g., Chamorro & Flores-Ortiz, 2000; Cuellar et al., 2004), but help to address some of the inconsistencies and limitations in this previous work (see Lawton & Gerdes, 2014 for a review). For example, previous studies that have used proxy measures of acculturation, such as nativity status or language use, or have looked at direct relationships, have not provided researchers or clinicians with information about why and how acculturation is related to mental health, nor about potential mechanisms for intervention to reduce risk.

Our findings suggest that acculturation is important for understanding Latino mental health within the context of the family. While parents' individual cultural

orientation was not related to mental health outcomes, differences in cultural orientation with their child, as well as family functioning, were associated with increased mental health problems. It seems that it is not one's individual cultural orientation by itself that may increase risk for mental health problems but rather how it unfolds within the context of the family. The significant mediating role of family functioning suggests that acculturation differences may negatively influence the way family members interact with each other. For example, language preferences, communication styles, and the importance of respect and personalism may differ between family members. These differences may affect their ability to solve problems effectively or negatively influence their relationship, putting them at risk for depression and anxiety.

Interestingly, in contrast with findings for adolescents, results did not provide evidence of acculturation conflict as a moderator, as no conditional indirect effects were significant, nor were post-hoc simple moderation analyses significant for parental outcomes. This suggests that acculturation differences are important for Latino parents' perceptions of family functioning and mental health, regardless of level of acculturation conflict. In addition, given our findings that parent-reported acculturation conflict trended toward positive significance with parental mental health problems, it is possible that acculturation conflict plays a more direct role in parental depression and anxiety, particularly if this type of conflict causes parents to feel rejected.

It also should be noted that mediation results differed according to which method was used. For example, the casual steps method (Baron & Kenny, 1986) supported family functioning as a mediator of the relationship between Latino cognitive and U.S. behavioral acculturation differences and parental mental health. Sobel's test of the

significance of the indirect effect (Sobel, 1982) supported the marginal significance of the indirect effect of Latino behavioral acculturation differences on parental mental health via family functioning. Bootstrapping analyses also supported the indirect effect of Latino behavioral acculturation as well as U.S. behavioral acculturation on parental mental health via family functioning. These differing findings suggest that the use of more sophisticated analytic methods, such as structural equation modeling, is important for future studies.

### **Acculturation and Family Functioning**

#### **Adolescent acculturation.**

While not the primary goal of the current study, results also provide information about links between acculturation and family functioning and suggest different patterns for adolescents and parents. For adolescents, acculturation for both cultures appears to be beneficial. Adolescents with more U.S. cultural orientation and adolescents with more Latino orientation, both behavioral and cognitive acculturation, reported better communication and more satisfaction with their families. Additionally, adolescent Latino acculturation was positively related to parental reports of family functioning. These findings are consistent with previous research; U.S. cultural involvement has been identified as a cultural asset related to better family functioning (Smokowski et al., 2008), and other studies have demonstrated the positive effect of orientation to Latino culture on family functioning, including less conflict (Smokowski & Bacallao, 2006), increased parental involvement and support (Sullivan et al., 2007), and increased family cohesion and adaptability (Smokowski et al., 2008). Additionally, in a longitudinal study, Schwartz

and colleagues (2013) found that Latino adolescents with a strong bicultural trajectory reported the best family functioning compared to other acculturation trajectories.

Although adolescent acculturation was consistently positively related to adolescent reports of family functioning, adolescent U.S. cognitive orientation was negatively related to parental reports of family functioning. These results suggest that the more orientation adolescents had to mainstream U.S. cultural values, the worse parents' perceptions were of family functioning. These findings indicate that adolescents' acculturation likely impacts themselves and their families in different ways. Adolescents who adopt certain U.S. cultural values, such as independence and self-reliance, may interact and communicate with their parents in ways that differ from their parents' expectations values, leading parents to perceive poor communication within the family and feel dissatisfied.

#### **Parental acculturation.**

Similar to findings with adolescent Latino orientation, parental Latino cognitive acculturation also was positively related to parental reports of family functioning. Other studies also have found that mothers' acculturation was related to family adaptability and cohesion (Knight et al., 1994). Given the emphasis on the family within traditional Latino culture (i.e., familism; Schwartz, 2007), it is likely that this cultural value (which is included in cognitive acculturation) plays a role in this link. Cognitive acculturation to Latino culture/cultural values may influence parenting practices and how families interact with each other. For example, Santisteban, Coatsworth, Briones, Kurtines, and Szapocznik (2012) found that parents who emphasize familism were more likely to implement positive parenting practices, such as involvement and effective discipline.

They also found familism to be a distinct predictor, separate from Hispanicism, their acculturation variable which was predominately behavioral. Others studies also have found that more traditional Latino families engage in more monitoring and supervision of their children's behavior (Buriel et al., 1993; Fridrich & Flannery, 1995; Samaniego & Gonzalez, 1999).

### **Limitations**

There are several limitations of the current study that should be noted. First, the sample is relatively small and did not allow us to use more sophisticated analytic strategies or to examine subgroups due to limited power. In addition, the small inter-rater correlations for some variables did not allow us to create composites and take multiple ratings into account. Additionally, another important limitation to consider is the assumption of the acculturation conflict measure that adolescents acculturate to U.S. culture faster than parents. Finally, the current study used a correlational design, which does not allow for determination of causality.

### **Conclusions and Future Directions**

Despite these limitations, results of the current study support several important conclusions. Acculturation is an important factor for understanding mental health within Latino families and seems to impact adolescents and their parents differently. Differences in Latino cognitive acculturation, perhaps the most meaningful aspect of acculturation for Latino families, was influential for adolescent mental health, but only at high levels of acculturation conflict. Additionally, positive family functioning decreased risk for adolescent externalizing problems, except at high levels of acculturation conflict.

Overall, acculturation conflict seems to be a more important construct for understanding acculturation and Latino adolescent mental health in our study, supporting the findings of previous research (Smokowski et al., 2007). Future research should examine other predictors of Latino adolescent mental health, such as the impact of discrimination, as well as peer influences, as these will further our understanding of the Latino adolescents' cultural context.

In contrast, acculturation differences were important for Latino parental mental health, regardless of level of acculturation conflict. Differences in both types of Latino acculturation negatively impacted family functioning, likely due to differences in communication styles and interpersonal values, whereas differences in U.S. behavioral acculturation were positively related to family functioning, perhaps due to expectations of such differences or perceptions of increased access to mainstream resources. Thus, it is important to determine how parents and families interpret and understand differences in the cultural orientation between themselves and their children.

Overall, our results highlight the importance of understanding acculturation within the context of the Latino family and suggest that differences in acculturation may not always be problematic and likely depend on how families interpret acculturation differences. Future research should examine what factors may influence families' view of acculturation differences as positive or negative. Additionally, given the availability of interventions aimed at facilitating family biculturalism, such as Bicultural Effectiveness Training (Szapocznik et al., 1984, 1986), Las Familias Unidas (United Families; Coatsworth et al., 2002) and Entre Dos Mundos (Between Two Worlds; Bacallao & Smokowski, 2005), future research should examine which families would benefit the

most from bicultural family therapy. Further dissemination of such interventions may help to address the increased risk of mental health problems and reduce mental health disparities in this population.

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