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The Associations Between Multiple Dimensions of Acculturation and Adjustment Among Latino Youth from Immigrant Families

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THE ASSOCIATIONS BETWEEN MULTIPLE DIMENSIONS OF ACCULTURATION AND

ADJUSTMENT AMONG LATINO YOUTH FROM IMMIGRANT FAMILIES

by

KATIE E. HALE

Under the Direction of Gabriel Kuperminc, PhD

ABSTRACT

Acculturation includes cognitive, affective, and behavioral dimensions, but few studies have included all three, and little is known about the ways in which these dimensions interact with contextual factors to predict psychological and behavioral adjustment among Latino adolescents. The current study explored the strength of the associations between the three dimensions of acculturation and psychological and behavioral adjustment among Latino adolescents from immigrant families ($N = 129$). The study also investigated whether acculturative stress and time in the U.S. moderated these associations. Results indicated that higher levels of acculturative stress and lower levels of familism (a measure of the cognitive dimension of acculturation) predicted higher psychological distress. Bicultural identity (affective dimension) predicted higher behavioral competence. Age of arrival moderated the association between Language preference (behavioral dimension) and distress for English-dominant participants such that adolescent arrival was associated with less distress compared with arrival in early childhood.

INDEX WORDS: acculturation, Latino adolescents, immigration, positive youth development

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1   INTRODUCTION

In the fall of 2014, the American public school system became majority-minority for the first time in history (Krogstad & Fry, 2014), and of the 50 million students in the education system, nearly 13 million identify as Latino. Although many Latino students are immigrants themselves, the number of U.S. born Latino children in the school system increased 98% from 1997 to 2013, demonstrating that these families are making a home in the U.S. (Krogstad & Fry, 2014). Unfortunately, the rate of research focused on Latino students has not kept up with the growing demand to understand the processes involved with Latino youths' social and academic success. Specifically, studies of immigrants and children of immigrants are needed to better understand how these young people negotiate cultural transitions, which appear to impact several areas of psychological and behavioral adjustment.

The "immigrant paradox" describes a pattern in which Latino adolescents who are immigrants or children of immigrants report more adaptive developmental outcomes than those whose families have been in the U.S. for longer periods of time (Garcia Coll & Marks, 2011). Despite higher exposure to socio-economic risk factors, Latino adolescents who are foreign-born (first generation) or have foreign-born parents (second generation) tend to fare better on measures of social-emotional, behavioral, and academic adjustment than Latino youth whose families have been in the U.S. for multiple generations (Berry, 2003; Garcia Coll & Marks, 2011; Suarez-Orozco, 2009). Researchers have begun to unpack the underlying protective mechanisms that may contribute to such adaptive outcomes among these early generation youth, including immigrant self-selection, family structure (e.g., number of parents, siblings), and acculturation processes (Brittian, Toomey, Gonzales, & Dumka, 2013; Santisteban, Coatsworth, Briones, Kurtines, & Szapocznik, 2012).

Berry's (2003) conceptualization of acculturation, which emphasized cultural, behavioral, and psychological changes that occur over time after contact with a new culture, has spurred a large body of research that recognizes acculturation as a multidimensional construct. Current models of acculturation also highlight the importance of contextual factors such as acculturative stress (Birman & Simon, 2013). For early generation Latino adolescents, several studies link positive psychological and behavioral adjustment with less unilateral U.S. acculturation (Berry, Phinney, Sam, & Vedder, 2006; Buriel, 1993; Christmas & Barker, 2014); however, little is understood about how these associations change depending on length of time in the U.S. For example, struggles related to learning a new language may have a stronger link to adjustment for recently arrived immigrants, whereas concerns about discrimination may be a more salient aspect of acculturation for U.S.-born youth with immigrant parents (Barrett, Kuperminc, & Lewis, 2013). The current study aims to elucidate how these and other dimensions of acculturation relate to psychological and behavioral adjustment for early generation Latino adolescents, and how these processes may differ depending on experienced stress and age of arrival in the U.S.

1.1   Acculturation Theory

Early models of acculturation utilized an assimilation framework, conceptualizing acculturation as a linear path from the culture of origin to the destination culture (Lopez-Class, Castro, & Ramirez, 2011). Noting that this framework ignored the beneficial components of retaining aspects of one's own culture, Berry (2003; 2006) theorized acculturation as a bidirectional process. Extant research evinces an adaptive function of retaining identification in the culture of origin as well as forming meaningful connections with the destination society, which is commonly called biculturalism (Chen, Benet-Martínez, & Harris Bond, 2008; Christmas & Barker, 2014; Nguyen & Benet-Martínez, 2012; Schwartz & Zamboanga, 2008;

Sullivan et al., 2007). More recent acculturation research focuses on the context of cultural

change and the contributions and interactions of the multiple cultures in which people are

entrenched at any given time. Acculturation is now viewed as a multidimensional and bilinear

process of identification change anchored in cultural context (Schwartz, Unger, Zamboanga, &

Szapocznik, 2010; Zea, Asner-Self, & Birman, 2003).

The APA Presidential Task Force on immigration (2013) concluded that the study of

immigrants and immigration must recognize that humans share a reciprocal relationship with

their environment, which varies as a function of the individual, time, and group processes like

culture. Recent models of acculturation incorporate ecological principles (Bronfenbrenner, 1986)

to address the interactions among larger systems (i.e. family, school, community, and culture)

and the acculturation process by proposing indirect pathways between context and acculturation

of individuals and communities (Agbemenu, 2016; Berry et al., 2006; Gonzales, Deardorff,

Formoso, Barr, & Barrera, 2006; Sullivan et al., 2007). Kuperminc, Wilkins, Roche, and

Alvarez-Jimenez (2009) drew upon this model to develop a cultural-ecological-transactional

framework in which to anchor acculturative processes for Latinos. Within this framework,

individual development is not just indirectly influenced by the interactions among these larger

systems, but includes direct pathways from more distal systems to the individual. For example,

findings from diverse cross-cultural studies have demonstrated that culture heavily influences

individual traits such as self-control and impulsiveness through individual endorsement of

independent or interdependent cultural values (Kacen & Lee, 2002; Zhang & Shrum, 2009).

Further, a meta-analysis of immigrant paradox research revealed that adolescence, age of arrival

in the U.S., acculturation, and length of time in the U.S. significantly predicted positive effects of

first and second generation status on individual outcomes such as psychological and behavioral adjustment (Teruya & Bazargan-Hejazi, 2013).

1.2   Dimensions of Acculturation

Historically, acculturation has been measured with single proxy variables such as generational status, time in the U.S., or language preference or proficiency; however, the use of these proxy variables has resulted in equivocal findings regarding Latino acculturation processes (Cabassa, 2003). One review of recent conceptions of acculturation for Latino populations found that reported levels of acculturation differed depending on the variable used to measure it (Lopez-Class et al., 2011). For example, Schwartz, Zamboanga, & Jarvis (2007) found that some Latino adolescents reported low Spanish language use, but strongly identified with the values associated with their culture of origin, resulting in a discrepant picture of participants' level of acculturation. In addition, several studies on immigrants from various countries have revealed that time in the U.S. may be linked with more U.S.-related values (e.g., independence, self-maximization), but is often uncorrelated with the emotional attachment and identification that immigrants feel toward their culture of origin (reviewed in Phinney & Ong, 2007). These findings suggest that acculturation cannot be understood as a unidimensional construct.

A growing body of research has identified affective, cognitive, and behavioral features of acculturation that are not interchangeable indicators (Birman & Simon, 2013; Schwartz & Zamboanga, 2008; Sullivan et al., 2007). Each reflects different aspects of acculturation, which may carry different meaning depending on context. As such, a multidimensional approach to measuring acculturation is needed (Lawton & Gerdes, 2014). Several studies have confirmed three broad dimensions of acculturation: affective (e.g. identification with and attachment to various aspects of cultural identification), cognitive (e.g. ascription to cultural values, belief

systems), and behavioral (e.g. language use, rituals and traditions, media preferences) (Chirkov, 2009; Padilla, 2006; Phinney & Ong, 2007; Rudmin, 2009; Schwartz et al., 2011, 2010; Zea et al., 2003). More research is needed to understand how each dimension differentially relates to psychological and behavioral adjustment among Latino youth particularly.

1.2.1   *The Affective Dimension of Acculturation*

The affective dimension of acculturation includes the extent to which one feels attached to and identifies with his/her culture of origin and/or destination culture, also known as cultural identification (Schwartz et al., 2011). This dimension is especially salient for first- and second-generation immigrants as they begin experiencing opportunities to adopt aspects of American culture into their identities. Extant research reveals that cultural identification is an important contributor to adjustment outcomes for Latino youth (Brittian et al., 2013; Castro, Stein, & Bentler, 2009; Phinney & Ong, 2007).

Through a 17-country study on immigrant youth, Berry, Phinney, Sam and Vedder (2006) offer a model of four distinct cultural identification profiles: *ethnic* (orientation toward culture of origin), *national* (orientation toward destination society), *integration* (high involvement in culture of origin and destination society), and *diffuse* (endorsing low ethnic and national identities). Berry et al. (2006) also measured several aspects of youth's psychological (e.g. self-esteem) and sociocultural (e.g., behavior problems) well-being. Young immigrants who endorsed an integration, or bicultural, profile exhibited the most positive psychological and sociocultural adaptation. Numerous studies have replicated these findings regarding the associations among biculturalism, increased psychological and social adaptation, and decreased internalizing and externalizing problems among Latino youth (Brittian et al., 2013; Christmas &

Barker, 2014; Phinney & Ong, 2007). In fact, general consensus in the field of acculturation research is that biculturalism is ideal (Nguyen & Benet-Martínez, 2012).

Berry et al. found that an ethnic profile was associated with higher psychological adaptation than national or diffuse profiles; however, research on the protective nature of maintaining an ethnic identification is equivocal (Schwartz et al., 2010). Conflicting research findings show that ethnic identification may function as a protective or risk factor depending on the outcomes being measured (Schwartz et al., 2010; Smith & Silva, 2011). Some studies have found that ethnic identification among Latino adolescents is associated with lower internalizing problems and risk taking behavior, and higher levels of self-esteem and ethnic pride (Castro et al., 2009; Cuéllar, Nyberg, Maldonado, & Roberts, 1997). Conversely, there is also evidence that suggests that U.S. cultural identification is linked with fewer externalizing problems, and that ethnic identification may be associated with greater risk of substance use and sexual activity among Latino adolescents (Lawton & Gerdes, 2014; Schwartz et al., 2010; Zamboanga, Schwartz, Jarvis, & Tyne, 2009). One explanation for these discrepancies may be related to the nuances of cultural identification measures such as ethnic identification, commitment, and enthusiasm. Another issue may be that some researchers fail to investigate the contribution of contextual factors when analyzing the associations between cultural identification and adjustment. An important direction for future research is to unravel these inconsistencies by focusing on how cultural identification may have different outcomes depending on measurement and contextual factors such as time in the U.S. and exposure to acculturation-related stressful events.

1.2.2   The Behavioral Dimension of Acculturation

Behavioral acculturation is the change in cultural practices including art, media and food choices, rituals and traditions, and language use (Chirkov, 2009). One of the primary aspects of behavioral acculturation for early generation Latinos in America is gaining English language skills, which have been shown to be directly related to academic success, self-esteem, and other socio-emotional outcomes among Latino youth (Han, 2010; Lopez-Class et al., 2011). Language preference has been widely used in the literature as an important indicator of acculturation, generally associating greater preference for Spanish with less U.S. acculturation and greater use of English with more acculturation (Lawton & Gerdes, 2014). Using language preference as a proxy variable for acculturation, Edwards et al. (2008) found associations with sexual activity, such that youth who preferred speaking Spanish were less likely to engage in risky sexual behavior than those that preferred speaking English. Indeed, several studies have found links with higher delinquency, substance use, risky sexual behavior, and physical and mental health problems in Latino adolescents who endorse more English language use than for those who use Spanish more frequently (reviewed in Garcia Coll & Marks, 2011; Lawton & Gerdes, 2014).

However, discrepancies similar to those found in research on cultural identification emerge in studies using longitudinal data. Han (2010) conducted a five-year study examining the relation between language proficiency and socioemotional outcomes for Latino and white students from kindergarten through fifth grade. At the beginning of the study, there were no significant differences in socioemotional outcomes between Latino and white kindergarteners regardless of language proficiency. By fifth grade, fluent bilingual and non-English dominant bilingual Latino children showed the highest self-control and interpersonal skills among all groups. They also demonstrated the lowest levels of externalizing and internalizing problems

among all the groups including English monolingual children. English dominant bilingual children and monolingual English children exhibited similar socioemotional outcomes. Surprisingly, non-English monolingual children had the most teacher reported problems with self-control, interpersonal skills, and internalizing issues by the fifth grade.

These findings indicate that English language proficiency may not be associated with psychological and behavioral adjustment early on, but as time in the U.S. increases, it becomes more important for Latino youth to develop English language skills. Han's study revealed how the relation between language preference and adjustment outcomes can change depending on time in the U.S., and sheds light on the possible source of discrepancies in other research studies on the topic. Further research including additional contextual factors like acculturative stress is needed to better understand these changes.

1.2.3 *The Cognitive Dimension of Acculturation*

The cognitive dimension of acculturation consists of the values and beliefs associated with the culture of origin and/or destination culture (Schwartz et al., 2011). For Latino youth, culture of origin values include interdependence, religious faith, and a family-centered worldview (King & Ganotice, 2015). Familism is a core component of Latino culture, and is often used to assess levels of cognitive acculturation among Latino adolescents. Sabogal, Marín, Otero-Sabogal, Marín, and Perez-Stable (1987) conceptualized familism as tridimensional including *facets of perceived family support* (e.g., family provides a sense of security), *familial obligation* (e.g., relatives should provide economic support for family members in need), and *family as referents* (e.g., a person should think about how their actions may affect their family). They found that although *familial obligation* and *family as referents* decreased with time in the U.S. for Latino immigrants, *perceived family support* remained consistent. These results indicate

that time in the U.S. may not have as much of an influence on some facets of the cognitive dimension of acculturation as it does for other dimensions.

A growing body of research specifies an association between familism and several positive youth outcomes (reviewed in Garcia Coll & Marks, 2011). Multiple studies with diverse groups including Latinos reveal that compared with later generations, first and second generation immigrants report higher levels of educational values, school effort, and academic outcomes, all of which correspond with greater endorsement of familism (Aretakis, Ceballo, Suarez, & Camacho, 2015; King & Ganotice, 2015). In addition, individuals who reported an interdependent worldview, which is also correlated strongly with expressed familism values, exhibited lower levels of impulsive behavior (Kacen & Lee, 2002). Thus, interdependence and familism may contribute to individual characteristics such as behavioral competence. All of these findings indicate that familism may be an important protective factor for Latino adolescents regardless of other contextual factors.

1.3 Contextual Factors and Acculturative Stress

A complete understanding of acculturative processes must include the context in which these processes take place. Recent theories of acculturation highlight the importance of contextual factors such as immigrant generation and receptivity and ethnic diversity of destination culture (Birman, Trickett, & Buchanan, 2005; Schwartz et al., 2010). For example, acculturation processes can vastly differ for immigrants arriving in an established immigrant destination like Los Angeles or New York as compared to a newer immigrant destination like the Midwest or Southeast (Schwartz et al., 2010). Another important contextual factor is the stress that most immigrants experience during acculturation processes, which is often directly related to an individual's interactions with his/her environment.

Acculturative stress is the conflict that arises from inter-ethnic engagement and/or distancing (Kuperminc et al., 2009). Research has revealed two dimensions of acculturative stress: assimilation and discrimination stress, which can differ as a function of time spent in the destination culture (Roche & Kuperminc, 2012). Assimilation stress is conceptualized as the stress that results from moving from one place to another, such as the stress due to being far away from family and learning a new language. Assimilation stress tends to wane as time in the U.S. increases. Discrimination stress stems from the devaluation of minority groups in the destination culture, which may lead to stress regarding ethnic discrimination at school and/or work. Research suggests that discrimination stress remains consistent as time in the U.S. increases (Roche & Kuperminc, 2012). In a study evaluating the connection between acculturative stress and gang involvement among Latino youth, Barrett and et al. (2013) found that discrimination stress, but not assimilation stress, was related to greater likelihood of gang involvement for U.S.-born Latino youth. For both U.S. and foreign-born participants, higher perceptions of inequality increased the likelihood of gang involvement.

Researchers are beginning to assess the extent to which acculturative stress plays a role in the association between acculturation and negative psychological and socio-emotional outcomes such as higher rates of internalizing and externalizing problems (DeVylder et al., 2013; Lorenzo-Blanco & Unger, 2015). It may be that these negative behaviors (e.g., substance use, school dropout) are actually coping strategies developed to alleviate acculturative stress (Kuperminc et al., 2009). Thus, acculturative stress may be a key mechanism in understanding the associations among different dimensions of acculturation, psychological and behavioral adjustment, and time in the U.S. for Latino youth.

1.4   Immigrant Psychological and Behavioral Adjustment

Socio-behavioral and psychological competence are essential for positive youth development (Guerra & Bradshaw, 2008). Several cross-cultural studies have linked early generation immigrant status to positive behavioral adjustment and reduction in risk for delinquency, externalizing problems, and anti-social behavior (Chun & Mobley, 2014; Greenman, 2013; Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). Positive psychological adjustment has been linked with low levels of emotional distress and pro-social connectedness for all adolescents regardless of cultural background (Guerra & Bradshaw, 2008). A meta-analysis of psychological adjustment and cultural identification studies found that bicultural identification maintained the strongest link with positive psychological adjustment as compared with other cultural identification profiles (Nguyen & Benet-Martínez, 2012). These findings begin to shed light on the importance of acculturation processes in the development of positive adjustment, but more research is needed to understand these processes in Latino youth particularly.

1.5   Current Study Aims and Hypotheses

This study examined the associations of three dimensions of acculturation (i.e., affective, behavioral, and cognitive dimensions) with psychological and behavioral adjustment among early generation Latino adolescents in a new immigrant destination city in the Southeastern U.S.. In addition, the study examined whether some of these associations were moderated by acculturative stress and age of arrival in the U.S. (see Figure 1).

Drawing from previous literature, it was hypothesized that the affective dimension of acculturation, as measured by cultural identification, would be related to psychological and behavioral adjustment (Berry et al., 2006; Garcia Coll & Marks, 2011; Lawton & Gerdes, 2014).

Specifically, it was expected that bicultural identification would be positively related to psychological distress and acting out problems, and negatively associated with behavioral competence (Garcia Coll & Marks, 2011; Phinney & Ong, 2007; Schwartz et al., 2010). Further, it was hypothesized that high levels of acculturative stress would moderate the association of bicultural identification with each measure of adjustment, such that greater stress would weaken the association between bicultural identification and adjustment (see Figure 1).
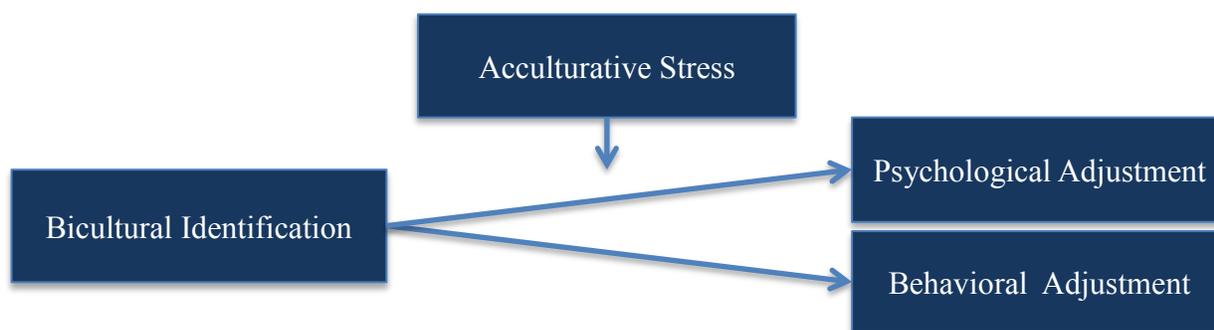
Figure 4. Theoretical model of affective dimension of acculturation

Utilizing a language preference measure to assess the behavioral dimension of acculturation, it was expected that age of arrival in the U.S. would moderate the relation between language preference and adjustment. For those who have been in the U.S. for less time, it was hypothesized that Spanish language preference would be positively correlated with adjustment (Han, 2010; Schwartz et al., 2011). In contrast, it was expected that Spanish language preference among those who were born in the U.S. would be negatively correlated with adjustment (see Figure 2).
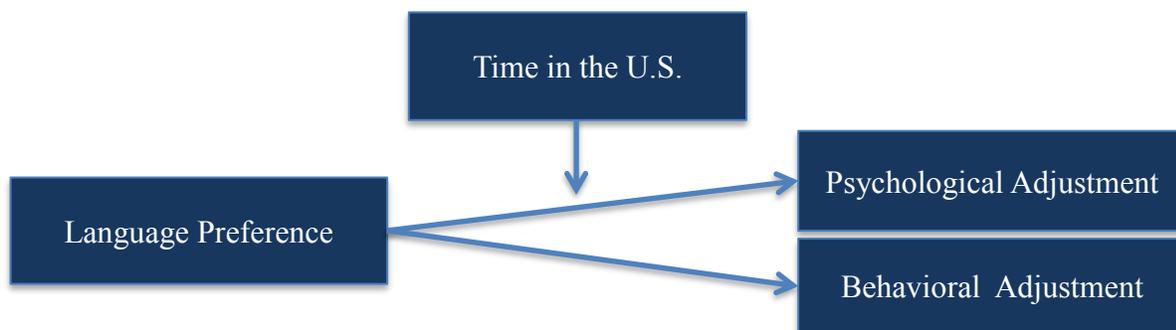
Figure 5. Theoretical model of behavioral dimension of acculturation

Finally, it was predicted that the cognitive dimension of acculturation, as measured by self-reported familism values, would be positively associated with psychological and behavioral adjustment. Further, it was expected that this positive association would remain regardless of age of arrival in the U.S. or acculturative stress among early generation Latino adolescent immigrants.
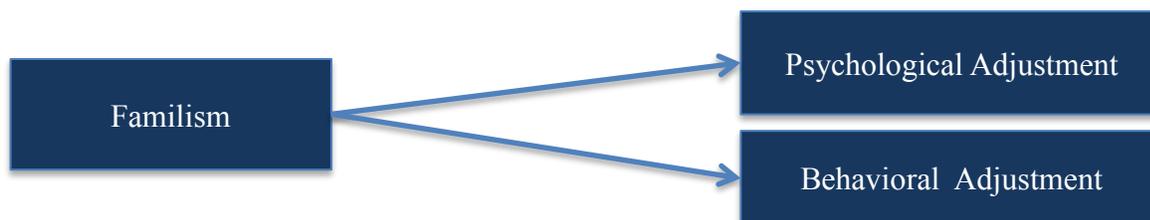
Figure 3. Theoretical model of cognitive dimension of acculturation

2 METHOD

2.1 Participants

Participants ($n = 129$) were recruited from an urban public high school in the Southeastern U.S., where 28% of the student body identified as Latino or Latina. Students were generally from low- to middle-income families (68% received free or reduced-priced lunch). Participants were in grades nine through 12, and the average age was 16.8 years. Sixty-four percent of participants were female. Seventy-two percent were first generation immigrants (i.e.,

born in a foreign country), and the remaining 28% were second generation (i.e., born in the U.S. to foreign-born parents). Roughly half (49%) of the participants were born in Mexico, 18% were born in Central America or the Caribbean, and 5% were born in South America (see Table 1).

Table 1 Participant demographics

	Frequency	Percentage	Mean
Gender			
Female	82	63.6	
Male	47	36.4	
Age			16.83
Grade Level			10.14
9th	40	31.0	
10th	44	34.1	
11th	32	24.8	
12th	13	10.1	
Free or reduced-price lunch	88	68.2	
Immigration Status			
First generation	92	72.1	
Second generation	36	27.9	
Country of Birth			
Colombia	2	1.6	
Cuba	2	1.6	
Dominican Republic	5	3.9	
El Salvador	6	4.7	
Guatemala	5	3.9	
Honduras	3	2.3	
Mexico	63	48.8	
Nicaragua	2	1.6	
Peru	4	3.1	
USA	36	27.9	

2.2 Procedure

Institutional Review Boards at Georgia State University and the school district approved the procedures. In 1999, an ethnically diverse group of bilingual researchers visited classrooms during school hours and explained the details of the study to self-identified Latino students.

Researchers also set up an information booth near the cafeteria during lunch periods to provide students with additional opportunities to ask questions and receive information. Students who expressed interest were given parental consent and assent forms with instructions to return signed forms to the school office. Presentations and study materials were provided in both Spanish and English.

All self-identified Latino students in the high school were invited to join the study, but researchers only had enough resources to include the first 120-140 students to sign up; therefore, an estimated 35% of the entire Latino population at the school ($N \approx 369$) participated in the study. Preliminary analyses revealed that this sample had similar demographic characteristics to those of the larger population of Latino students in the school (e.g. the proportion of students with Mexican origin vs. other nationalities was similar). Students were eligible to participate in the study after they returned signed parental consent and assent forms. Participants completed self-report paper surveys in groups of 10-12 students during a two-hour combined class-lunch period. Two researchers fluent in English and Spanish read aloud each question while other researchers were available to answer questions and monitor progress. To ensure confidentiality, all surveys contained individual identification numbers. Teachers also completed surveys regarding each participant's classroom behavior. Participants received $10 and a free pizza lunch as incentive for participation. Researchers also provided $2 per returned teacher rating to teachers as an expression of gratitude for their input.

2.3 Measures

Spanish versions of each measure were developed through a process of translation, back-translation, and de-centering to ensure accuracy and cultural sensitivity (Barona & Barona, 2000). Measures were also pre-tested on a small group of Latino adolescents who completed the

survey and then participated in a focus group, in which they were asked to provide feedback regarding the relevance and coherence of the survey items. In the final survey, every item was presented in English alongside the Spanish translation. Measures utilized in this study were previously used with Latino population samples, but due to a paucity of studies with Latino adolescent populations and the need to translate measures originally developed in English, relevant norms for most measures were lacking (Kuperminc, Wilkins, et al., 2009).

2.3.1   *Demographic and immigration-related variables*

Participants answered questions assessing demographics including age, gender, and socio-economic indicators such as household size. School records regarding access to the federally subsidized lunch program provided additional socioeconomic information. Participants also answered questions regarding their birth country, their parents' birth country, and the number of years lived in the U.S.

2.3.2   *Cultural Identification (Affective Dimension of Acculturation)*

Cultural identification was assessed using a forced-choice measure of mono- and bi-cultural identification created for this study, which was informed by Phinney and Devich-Navarro's (1997) findings regarding ethnic minority adolescents' cultural identification patterns. Participants responded to the question, "If you had to pick one phrase to describe yourself, which one would you pick?" Answer choices were "Latino/a (1)," "Latino/a-American, Latino/a First (2)," "Latino/a-American, Blend of Both (3)," "Latino/a-American, American First (4)," and "American (5)." No participants answered "American (5);" therefore, cultural identification was dichotomized into Latino/a (i.e. endorsed 1) and bicultural (i.e. endorsed 2-4). New categorical codes were created to differentiate between those who identified as Latino only (0; 57%) or bicultural (1; 43%).

2.3.3   Language Preference (Behavioral Dimension of Acculturation)

Participants completed the five-item *Language Acculturation Scale* (α = .83), which measures language preference in multiple settings (Marín & Marín, 1991). Items include "In what language do you usually think?" and "What language do you usually speak at home?" Items were rated on a five-point scale (1=Only Spanish; 3=Both Equally; 5=Only English). Total scale scores ranged from 1.4 to 5 with higher scores indicating greater U.S. behavioral acculturation. In previous studies with Latino populations, the scale has shown excellent reliability (α = .80-.90) and validity, strongly correlating with immigrant generation, length of time in the U.S., and cultural identification (Marín & Marín, 1991; Marín, Sabogal, Marín, Otero-Sabogal, & Perez-Stable, 1987; Miller, Miller, Zapata, & Yin, 2008).

In order to differentiate bicultural individuals, language preference was divided into three categories and dummy coded: English-dominant (score $\geq$ 3.4; 39%), bilingual ($2.6 \leq$ score $>$ 3.4; 29%); and Spanish-dominant (score $<$ 2.6; 32%). For dummy code 1, English-dominant participants were coded as "1" and everyone else was "0." For dummy code 2, Spanish-dominant participants were coded as "1" and everyone else was "0." Bilingual participants were used as the reference category in all analyses.

2.3.4   Familism (Cognitive Dimension of Acculturation)

Familism was assessed by the 12-item (α = .70) *Familism Scale* (Sabogal et al., 1987), which includes items assessing *Familial Obligation* (e.g., "More parents should teach their children to be loyal to the family"), *Perceived Support from the Family* (e.g., "I expect my relatives to help when I need them"), and F*amily as Referents* (e.g., "A girl should not date a boy unless her parents approve"). Responses are given on a four-point scale ranging from 1=Not at all True to 4=Very True, such that higher scores reflect higher expressed familism values. This

measure was developed specifically for Hispanic and Latino populations, and has demonstrated good reliability (α range for subscales = .64-.76) and validity in previous studies, revealing strong negative correlations with measures of U.S. acculturation (Sabogal et al., 1987).

2.3.5   *Acculturative Stress*

The *Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale* (SAFE; Mena, Padilla, & Maldonado, 1987) was used to measure participants' perceived stress related to assimilation and discrimination. Participants rated the 28-items (α = .84) on a four-point scale (1=Not at all True; 4=Very True). Example items include, "It bothers me that my family does not understand my new American values" and "I feel bad when others make jokes about or put down Latinos." High scores signify higher perceived acculturative stress. The SAFE has been normed on Latino youth, demonstrating an overall internal consistency of α = .84 (Barrett et al., 2013).

2.3.6   *Psychological Adjustment*

To examine psychological adjustment, participants completed the *Weinberger Adjustment Inventory* short-form (WAI: Weinberger & Schwartz, 1990). The 12-item *distress scale* (α = .86) assesses depression, anxiety, low self-esteem, and low well-being (e.g., "I'm not very sure of myself"), and is theorized to measure an individual's inclination to experience psychological distress. All items were answered on a four-point Likert scale ranging from "Not at all True" to "Very True", which was adapted from the original five-point scale due to pilot participants' reporting difficulty understanding the translation of a five-point scale (Kuperminc, Jurkovic, & Casey, 2009). Positive questions were reverse scored so that higher scores indicated higher psychological distress. The WAI distress scale has shown high internal consistency with alpha coefficients of .91 in nonclinical, ethnically diverse samples of youth, and has documented

correlations with psychopathology and externalizing behavior (Weinberger, 1997; Wilson, Rojas, Haapanen, Duxbury, & Steiner, 2001).

2.3.7   Behavioral Adjustment

The *Teacher-Child Rating Scale* (TCRS: Hightower et al., 1986) was utilized to obtain teacher ratings of students' school-based behavioral adjustment. The TCRS includes two major composites developed to measure both behavior problems and competence each comprised of three subscales, *total problem behaviors* (18-items; *acting-out* (6-items), *shy-anxious* (6-items), *learning problems* (6-items)) and *total competencies* (20-items; *frustration tolerance* (6-item), *social skills* (7-item), *task orientation* (7-item)). The *total competencies* scale ($\alpha = .95$) was used to measure behavioral competence. Competence was rated on a five-point scale (1=Not At All; 5=Very Well), and included items measuring frustration tolerance, assertive social skills, and task orientation (e.g., "Accepts things not going his/her way"; "Defends own views under group pressure"; "Completes work"). The *acting-out* scale ($\alpha = .89$) was chosen as a measure of readily observable behavior problems. Acting-out was rated on a five-point scale (1=Not A Problem; 5=Very Serious Problem) and included items such as "Disruptive in class" and "Overly aggressive to peers." The total competencies scale and the acting out scale were used as a separate measure of behavioral adjustment.

The TCRS was originally developed with an elementary school sample, but has been shown to be a reliable measure for adolescent behavioral adjustment among ethnically diverse youth in urban settings (Luthar & Blatt, 1995). In past studies, the scales have demonstrated internal consistency ($\alpha < .85$) and correlate with other behavioral measures and academic performance (Hightower et al., 1986; Trickett, McBride-Chang, & Putnam, 1994).

2.4   Data Analysis Strategy

Hierarchical regression models were conducted to test the hypotheses that 1) the affective, behavioral, and cognitive dimensions of acculturation each would have distinct associations with psychological and behavioral adjustment, and 2) that acculturative stress and age of arrival would play a significant role in understanding these associations among early Latino adolescent immigrants and children of immigrants (Aiken & West, 1991).

The predictor variables were bicultural identification (affective dimension of acculturation), language acculturation (behavioral dimension), and familism (cognitive dimension). Bicultural identification was dichotomized into those who identified as "Latino only" (0) or a combination of Latino and American ("Bicultural;" 1). Language acculturation was categorized into three groups based on scores (Spanish-dominant, bilingual, and English-dominant) and dummy coded with the bilingual group as reference. Acculturative stress and age of arrival in the U.S. were moderators. Based on previous research, which has found some evidence for the effects of sex, current age, and income (as measured by eligibility for free or reduced-price lunch) on adjustment among Latino youth, all three were included as covariates (Garcia Coll & Marks, 2011). Dependent variables were self-reported psychological adjustment (psychological distress measure) and teacher-reported behavioral adjustment (acting-out and competencies measures).

To ensure that the data met the assumptions of multiple regression, tests of linearity and homoscedasticity (homogeneity of variance) were conducted by plotting the standardized residuals against the predicted values of adjustment. A Durbin-Watson test was also performed to address the assumption of independence of residuals. Researchers investigated the assumption

of non-multicollinearity by examining the correlations among the three predictor variables (i.e., > 0.8) (Aiken & West, 1991).

To examine bivariate associations among all variables, zero order correlations were performed first. Individual sample t-tests were performed for participants from Mexico as compared to those with origins in other Latin American countries to ensure that country of origin was independent of other model variables. Next, researchers constructed separate hierarchical regression models containing both moderators (age of arrival in the U.S. and acculturative stress) to test each dependent variable (psychological and behavioral adjustment). The interaction term for age of arrival was computed by multiplying mean-centered values with the values of each acculturation variable. Familism was mean-centered because it was continuous; however, bicultural identification and language preference were not as both variables were categorical. The acculturative stress interaction term was also created by multiplying mean-centered acculturative stress values with each acculturation variable.

A total of nine hierarchical regression models were constructed to test the contribution of each dimension of acculturation to the variance in each measure of psychological and behavioral adjustment. Consistent with previous acculturation research, income, gender, and age were included in the first step of each regression model as covariates (Marks, Ejesi, & García Coll, 2014) in addition to acculturative stress and age of arrival in the U.S. The second step included a dimension of acculturation (i.e. bicultural identification, familism, language preference), and the third step included interaction terms of acculturative stress and age of arrival with each acculturation measure.

A post hoc power analysis was conducted using the software package, G*Power (Erdfelder, Faul, & Buchner, 1996). The sample size of 129 was used for the statistical power

analyses and an eight predictor variable equation was used as a baseline for regressions that included interactions. The recommended effect sizes used for this assessment were as follows: small ($f 2 = .02$), medium ($f 2 = .15$), and large ($f 2 = .35$) (Cohen, 1988). The alpha level used for this analysis was $p < .05$. The post hoc analyses revealed the statistical power for these models to detect a small effect was .15. Power was .88 for detecting a medium effect, and exceeded .99 for the detection of a large effect size. In addition, a five predictor variable equation with an alpha level of $p < .05$ was used for regression models without interaction terms. Statistical power was .19, .93, and .99+ for small, medium, and large effect sizes, respectively. Accordingly, there was acceptable power (i.e., power * .80) to detect moderate to large effect sizes, but less than adequate statistical power for small effect sizes. Due to the study's low power for finding small effects, previous acculturation literature reporting small effects, and the inclusion of interaction terms, results with a significance level of $p < .10$ are reported (Lawton & Gerdes, 2014; Rosnow & Rosenthal, 1989).

3   RESULTS

3.1   Preliminary Analysis

Study participants were largely first generation immigrants (72%) and reported their cultural identification as either only Latino (57%) or Latin-American (43%). On the language preference measure, 81.4% of respondents scored above a 2 (i.e. "Spanish more than English") indicating that a large majority of the sample had some English language skills. For acculturative stress, the average scale score was 2.2 (out of 4), which corresponded with "slightly true" responses to questions about acculturative stress; 36.4% scored below a 2, and only 4.7% of respondents scored above a 3 ("somewhat true"). On the psychological distress measure, the average scale score was also 2.2 ("slightly true"); 42.6% scored below a 2 and 7.8% scored

above a 3 ("somewhat true"). The average teacher reported acting-out score was 1.4 (out of 5),

which fell between "not a problem" and "mild problem" with a range of scores from 1.0 – 3.5.

The average competencies score was 3.6 (out of 5), which fell between "moderately well" and

"well" and ranged from 1.3 – 5. These scores indicated that participants were relatively well-

adjusted given the possible range of scores for scales; however, due to a lack of verified norms

for these measures with Latino adolescents and altered rating scales, comparisons to other groups

cannot be made (Kuperminc, Jurkovic, et al., 2009; Kuperminc, Wilkins, et al., 2009).

Preliminary analyses revealed few missing data (96.3% of cases had complete data). Only

two study variables had more than 3% missing data: teacher-reported data were missing for 13

participants (10%) and age of arrival in the U.S. was missing for eight participants (6%). Little's

MCAR test revealed that these data were missing completely at random, $\chi^2 = 92.71$, $p = .43$;

therefore, the expectation maximization (EM) algorithm was used to impute missing values. The

EM method uses existing data to predict an expected value for a missing data point then checks

the likelihood of the expected value. This iterative process continues until the most likely value

of the missing data point is imputed, and it reduces bias more than listwise deletion or mean

imputation while still maximizing power in datasets that are largely intact (Dempster, Laird, &

Rubin, 1977).[1]

Except for acculturative stress, mean differences comparing participants born in Mexico

to those born in other Latin American countries for predictor and outcome variables were not

significant. Participants born in Mexico reported slightly lower levels of acculturative stress, $M =$

2.20, SD = .45, than those born in other Latin American countries, $M = 2.38$, $SD = .39$, $t(96) = -$

1.99, $p = .05$. There were no significant differences between participants born in Mexico and

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[1] Due to the higher percentage of missing teacher reports, regression models were also created using non-imputed data, which showed no substantial differences in B or β values from the models using imputed data.

those born in other Latin American countries on measures of acculturation, age of arrival in the

U.S., or adjustment outcomes. These findings indicate that levels of acculturation and adjustment

were similar across the Mexican and non-Mexican youth in the sample.

Income, sex, and age were considered as covariates due to their correlations with study

predictor and outcome variables in previous studies (Garcia Coll & Marks, 2011; Jaccard,

Guilamo-Ramos, Johansson, & Bouris, 2006; Kuperminc, Jurkovic, et al., 2009). Income was not

significantly correlated with any other variables in this study; thus, only age and sex were

retained as covariates in the final analyses. Female sex was positively correlated with

psychological and behavioral competence and negatively correlated with familism and acting-

out. There were no significant interactions of covariates with other study predictor variables for

any outcome variable.

Table 2 details descriptive statistics and intercorrelations for all study variables included

in the primary analysis. There were several significant correlations between outcome and

predictor variables from the proposed model. Self-reported psychological distress was positively

associated with acculturative stress and Spanish-dominant language preference. Teacher-reported

acting out was not significantly correlated with acculturation indicators, but behavioral

competence was positively associated with bicultural identification.

3.2   Primary Analysis

Hierarchical regressions models were used to test hypotheses regarding associations of

the three dimensions of acculturation with adjustment outcomes, and any moderating effects of

acculturative stress and age of arrival in the U.S. Tables 3a–5b show results for the final

regression models. There were no significant main effects of language acculturation in any of the

regression models. There was one significant interaction between age of arrival and language

acculturation.

Table 2   Correlations among all study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Psychological Distress	-											
2. Acting-Out	-.13	-										
3. Competence	-.15	-.31*	-									
4. Sex	.35*	-.36*	.21*	-								
5. Current Age	.02	-.12	.07	-.02	-							
6. Age of arrival in U.S.	.13	-.02	-.11	-.01	.23*	-						
7. Acculturative Stress	.47*	-.03	.01	.10	.05	.42*	-					
8. Bicultural Identification	.14	-.01	.19*	-.08	-.04	-.18*	.05	-				
9. Familism	-.09	.01	.06	-.19*	.04	.22*	.25*	-.15	-			
10. Spanish Dominant	.19*	.02	-.05	.01	.02	.64*	.50*	.03	.19*	-		
11. Bilingual	-.16	-.01	-.03	-.02	.02	-.12	-.11	-.11	-.04	-.44*	-	
12. English Dominant	-.03	.00	.07	.01	-.04	-.50*	-.37*	.07	-.15	-.55*	-.51*	-
Mean	2.14	1.36	3.60	1.64	16.83	7.68	2.20	.43	2.72	.33	.29	.39
Standard Deviation	.61	.57	.85	.48	1.15	5.98	.45	.50	.43	-	-	-

3.2.1   Self-Reported Psychological Distress

The final regression model including bicultural identification accounted for 34% of the variance in psychological distress, $F(5, 123) = 12.36$, $p < .01$ (see Table 3a). In step one of the model, acculturative stress significantly predicted psychological distress, such that every standardized unit increase in acculturative stress was associated with a .45 unit increase in psychological distress. Female sex also significantly predicted higher psychological distress. After accounting for significant effects of acculturative stress and sex, bicultural identification uniquely accounted for an additional 2% of the variance in psychological distress, $p = .07$. The regression of psychological distress on familism also accounted for 34% of the variance in psychological distress, $F(5, 123) = 12.54$, $p < .01$ (see Table 3b). Familism significantly predicted psychological distress, such that every standardized unit increase in familism was associated with a .16 unit decrease in psychological distress after accounting for significant effects of acculturative stress and sex.

The final regression model including language acculturation and interaction terms of language acculturation with age of arrival in the U.S. accounted for 37% of the total variance in psychological distress, $F(8, 120) = 8.42$, $p < .01$ (see Table 3c). In step one of the model, acculturative stress, female sex, and age of arrival in the U.S. were significant predictors of psychological distress ($R^2 = .32$). Though there were no significant main effects of language acculturation ($R^2 = .02$), the interaction of English-dominant language preference with age of arrival in the U.S. was found to be independently associated with psychological distress.

To uncover the nature of this interaction, a simple slopes analysis was conducted, which indicated that age of arrival was a significant predictor of psychological distress for those who were English-dominant, ß = -.35, $B = -.04$, $SE = .02$, $p = .05$ (see Figure 2). For English-

dominant participants, every unit increase in age of arrival was associated with a .35 unit decrease in the slope of age of arrival on psychological distress indicating that English-dominant youth who arrived in the U.S. during adolescence experienced lower levels of psychological distress than those who were U.S. born or arrived in early childhood. However, for those who were bilingual, age of arrival was not independently associated with psychological distress, ß = .14, $B = .01$, $SE = .02$, $p = .35$. Neither was there an interaction of language preference on the association of age of arrival and psychological distress for Spanish-dominant participants.

Table 3 Regression of self-reported psychological distress on bicultural identification

	R^2 for step	ß	B	SE
Step 1	.32**			
Sex		.31**	.39	.01
Age		.02	.01	.04
Acculturative Stress		.45**	.61	.11
Age of Arrival		-.04	.00	.01
Step 2	.02†			
Bicultural ID		.14†	.17	.09
R^2 Total	.34			

Note: $N = 129$; DV is Distress; Coefficients are from the final model; **$p < .01$; *$p < .05$; †$p < .1$

Table 4 Regression of self-reported psychological distress on familism

	R^2 for step	ß	B	SE
Step 1	.32**			
Sex		.27**	.33	.01
Age		.02	.01	.04
Acculturative Stress		.51**	.69	.11
Age of Arrival		-.05	-.01	.01
Step 2	.02*			
Familism		-.16*	-.22	.11
R^2 Total	.34			

Note: $N = 129$; DV is Distress; Coefficients are from the final model; **$p < .01$; *$p < .05$; †$p < .1$

Table 5 Regression of self-reported psychological distress on language preference

	R^2 for step	ß	B	SE
Step 1	.32**			
Sex		.29**	.37	.09
Age		.01	.01	.04
Acculturative Stress		.50**	.69	.12
Age of Arrival		.14	.01	.02
Step 2	.02			
Spanish Dominant		-.01	-.01	.17
English Dominant		.05	.06	.13
Step 3	.03†			
Age of Arrival x Spanish Dominant		-.05	-.01	.03
Age of Arrival x English Dominant		-.26*	-.05	.02
R^2 Total	.37			

Note: $N = 129$; DV is Distress; Coefficients are from the final model; **$p < .01$; *$p \leq .05$; †$p < .1$
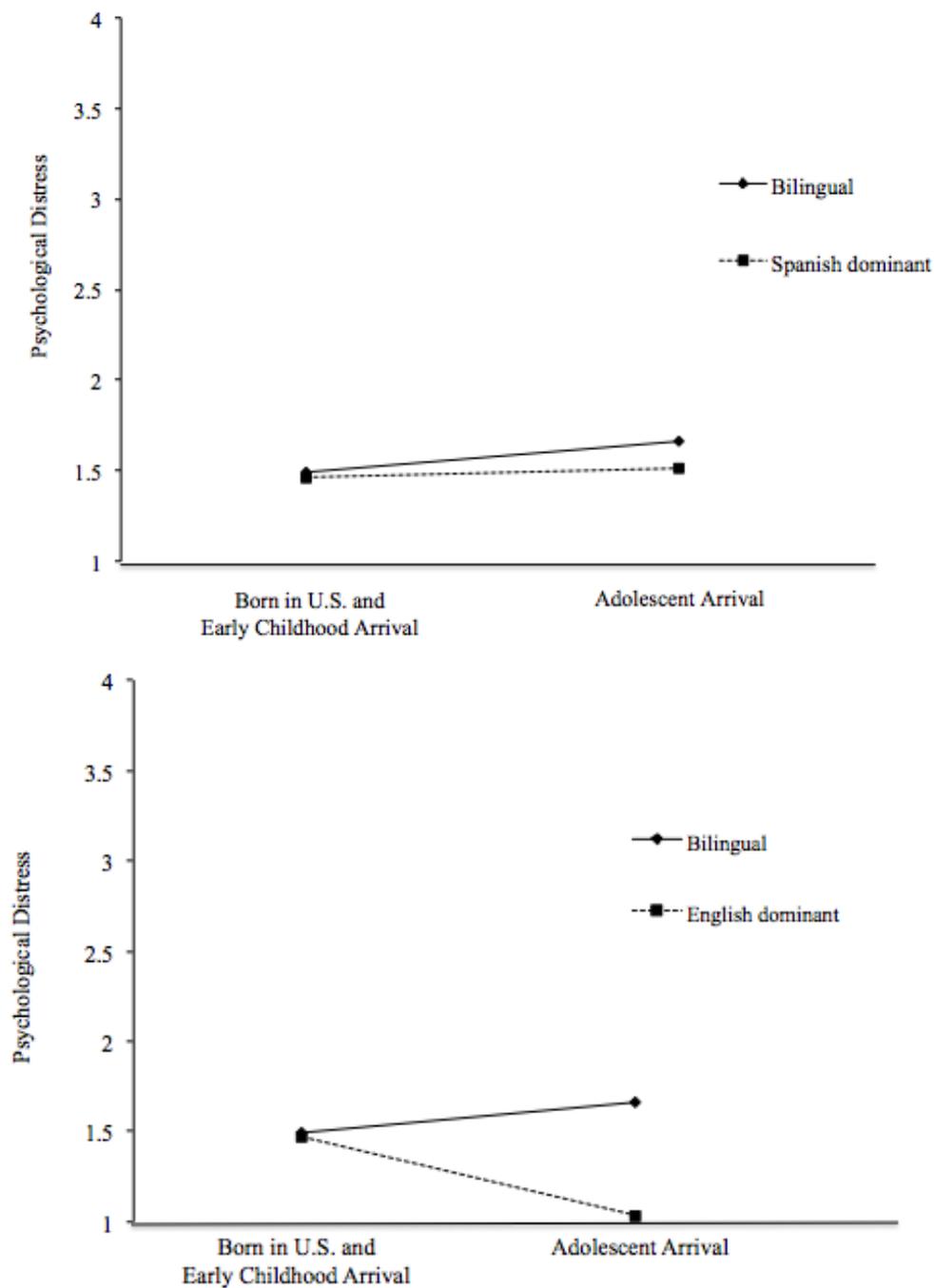
Figure 6 Interaction between language preference and age of arrival in the U.S. with bilingual as reference group: associations with psychological distress. High and low values for age of arrival in the U.S. correspond to +1.0 and -1.0 SD from the mean, respectively.

3.2.2 Teacher-Reported Acting-Out

The final regression model including bicultural identification accounted for 17% of the variance in acting-out, $F(5, 123) = 4.87$, $p < .01$ (see Table 4a). In step one of the model, male sex significantly predicted acting-out. In the second and final step of the model, bicultural identification accounted for an additional 2% of the variance in acting-out, $p = .09$. Familism was not found to be a significant predictor of acting out (see Table 4b).

Table 6 Regression of teacher-reported acting-out on bicultural identification

	R^2 for step	ß	B	SE
Step 1	.15**			
Sex		-.38**	-.45	.10
Age		-.12	-.06	.04
Acculturative Stress		.04	.05	.12
Age of Arrival		-.04	.00	.01
Step 2	.02†			
Bicultural ID		-.14†	-.16	.10
R^2 Total	.17			

Note: $N = 129$; DV is Acting Out; Coefficients are from the final model; **$p < .01$; *$p < .05$; †$p < .1$

Table 7 Regression of teacher-reported acting-out on familism

	R^2 for step	ß	B	SE
Step 1	.15**			
Sex		-.36**	-.43	.10
Age		-.12	-.06	.04
Acculturative Stress		.01	.01	.12
Age of Arrival		-.01	.00	.01
Step 2	.00			
Familism		.03	.04	.12
R^2 Total	.15			

Note: $N = 129$; DV is Acting Out; Coefficients are from the final model; **$p < .01$; *$p < .05$; †$p < .1$

3.2.3   Teacher-Reported Behavioral Competence

For teacher-reported behavioral competence, the final model including bicultural identification accounted for 11% of the variance in behavioral competence, $F(5, 123) = 2.72$, $p <$ .05 (see Table 5a). In step one of the model, female sex significantly predicted competence. After accounting for effects of sex, bicultural identification significantly accounted for an additional 4% of the variance in behavioral competence, such that teachers rated bicultural youth as .19 standard units higher on behavioral competence than youth who identified as Latino/a only. Familism was not found to be a significant predictor of behavioral competence (see Table 5b).

Table 8 Regression of teacher-reported behavioral competence on bicultural identification

	R^2 for step	ß	B	SE
Step 1	.07†			
Sex		.22*	.39	.15
Age		.10	.07	.07
Acculturative Stress		.01	.02	.18
Age of Arrival		-.10	-.01	.01
Step 2	.04*			
Bicultural ID		.19*	.33	.15
R^2 Total	.11			

Note: $N = 129$; DV is Behavioral Competence; Coefficients are from the final model; **$p < .01$; *$p < .05$; †$p < .1$

Table 9 Regression of teacher-reported behavioral competence on familism

	R^2 for step	ß	B	SE
Step 1	.07†			
Sex		.23†	.41	.16
Age		.10	.07	.07
Acculturative Stress		.02	.03	.19
Age of Arrival		-.16	-.02	.01
Step 2	.02			
Familism		.13	.26	.18
R^2 Total	.09			

Note: $N = 129$; DV is Behavioral Competence; Coefficients are from the final model; $**p < .01$; $*p < .05$; $†p < .1$

4   DISCUSSION

In studies of Latino adolescents, immigrants and children of immigrants often exhibit better adjustment outcomes compared to peers whose families immigrated two or more generations earlier (Garcia Coll & Marks, 2011). A growing body of research demonstrates the importance of examining acculturation processes among Latino youth to better understand this phenomenon (Teruya & Bazargan-Hejazi, 2013). While past research has often operationalized acculturation using a single variable, more recent studies have measured multiple dimensions of acculturation and the impact that environment may have on these dimensions (Birman & Simon, 2013; Cabassa, 2003; Lopez-Class et al., 2011). The current study built upon previous research by addressing the contribution of contextual factors to acculturation processes and utilizing a multidimensional conceptualization of acculturation, which included affective, cognitive, and behavioral dimensions. This contributes to a burgeoning body of research that utilizes a multidimensional framework to study acculturation processes of immigrant and children of immigrants Latino adolescents for whom these processes may be more salient than for youth

whose families have been in the U.S. for more than one generation. This study also utilized teacher-reported data for adjustment outcomes in addition to self-reported data.

Consistent with previous research, results confirmed the hypothesis that biculturalism is independently associated with behavioral competence. Nguyen and Benet-Martínez's (2012) meta-analysis of studies linking biculturalism to adjustment found a strong link between self-reported measures of bicultural identification and behavioral competence. The present study also confirmed these findings utilizing teacher-reported data on behavioral competence, providing evidence that the association between biculturalism and competence can be seen across reporters and settings. However, given the cross-sectional design of the current study, one alternative possibility is that better-behaved individuals tend to identify as bicultural, which could be a function of better social skills for making American friends, etc.

Compared to youth who endorsed a Latino only identification, those that endorsed a bicultural identification had marginally lower levels of acting-out (as reported by teachers), but also reported slightly higher levels of psychological distress. These findings suggest that bicultural identification may have a complex role in behavioral and psychological adjustment, which could depend on what aspect of adjustment is being examined. Because the current study had limited power to detect these modest, though potentially important, associations, further research using a larger sample is needed to replicate these findings. The findings contribute evidence that maintaining a mono-cultural orientation may be adaptive or maladaptive for Latino youth depending on the outcome measured. The link between ethnic identification and acting-out may be explained by a lack of connection between young Latinos and their surrounding culture. This disconnect can have negative consequences on self-esteem, which can lead to acting-out and other risky behaviors (Zamboanga et al., 2009). Previous research findings also show that

intra-familial cultural differences can increase stress among Latino youth, which may account for the slightly higher levels of psychological distress in those who identified as bicultural (Rodriguez, Mira, Paez, & Myers, 2007). A bicultural identification may contribute to family stress as a young person begins to adopt parts of other cultures that are different from his or her parents' culture (Lawton & Gerdes, 2014; Lorenzo-Blanco & Unger, 2015; Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009); however, more longitudinal research is needed to understand the possible pathways between bicultural identification and higher psychological distress for young Latinos.

Although the hypothesis that language acculturation would independently predict adjustment outcomes was not supported overall, moderation analysis indicated that the association between language acculturation and psychological distress may depend on age of arrival. It was hypothesized that those who have been in the U.S. for a longer period of time would experience more psychological distress if they remained Spanish-dominant. Indeed, Spanish-dominance correlated with psychological distress and Spanish-dominant individuals reported the highest levels of psychological distress compared with bilingual and English-dominant participants; however, age of arrival did not moderate the association between language and distress for Spanish-dominant youth. Conversely, the results indicated that although bilingual and English-dominant participants who were born in the U.S. or arrived during early childhood reported the same levels of psychological distress, for those who arrived in adolescence, English-dominant participants reported lower levels of psychological distress as compared with bilingual participants.

This finding has not previously been reported in the acculturation literature, but may be partially explained by individual characteristics of those who have only been in the U.S. for a

short period of time and already predominantly speak English. Perhaps they are quick learners or have flexible personalities and adapt easily in new environments, both of which may make them generally less likely to experience psychological distress. Additionally, this finding could be linked to social class, as children who receive education in English prior to immigrating to the U.S. are more likely to be from families with higher socio-economic status (SES) in their countries of origin (Ramírez-Romero & Sayer, 2016). Higher social class may protect these young people from many risk factors associated with psychological distress (i.e. lack of access to resources, unstable housing, etc.) Although household income (as measured by qualification for free or reduced lunch) was not significantly correlated with age of arrival in the U.S. or language preference, the study did not obtain information on SES in participants' country of origin (e.g. parent's education, occupation, income), which can vastly differ from SES in the U.S. (Feliciano, 2005).

The study results supported the hypothesis that familism is protective against psychological distress regardless of other contextual factors like acculturative stress and time in the U.S. This finding is consistent with the cultural-ecological-transactional framework, which posits that cultural values like familism have direct pathways to individual outcomes such as psychological distress. These direct pathways from distal ecological systems to the individual may be especially important for Latino adolescents in the U.S. who are navigating multiple cultures at a time (Kuperminc, Wilkins, et al., 2009). An alternative possibility is that lower levels of psychological distress leads to more familism, perhaps through greater pro-social behaviors. Familism was not found to be a significant predictor of teacher-reported behavioral competence or acting-out. This may be due to a restricted range in the teacher reports on this measure. In this sample, teachers reported that most students had very few acting out problems

(M = 1.3, min = 1, max = 3.5, possible range = 1-5) and is in line with previous studies on the immigrant paradox, which reveal that adolescents who are immigrants or children of immigrants have less behavioral problems than many of their peers (Garcia Coll & Marks, 2011).

Study results were congruent with the hypothesis that acculturative stress is positively associated with psychological distress, but the prediction that acculturative stress would moderate the association between bicultural identification and adjustment was not supported. Instead, acculturative stress itself emerged as the strongest indicator of psychological distress among all of the study variables. These findings indicate that acculturative stress plays a large role in psychological distress for Latino adolescents across levels of acculturation. Counter to hypotheses, acculturative stress did not have any main or moderating effects on teacher-reported acting-out or behavioral competence, suggesting that acculturative stress may not play a role in the aspects of behavioral adjustment assessed in this study. However, aspects of acculturative stress including discrimination and assimilation stress may play a role in other behavioral adjustment measures not included in this study (e.g. gang involvement), and these associations may differ as a function of generation or other acculturation correlates (Barrett et al., 2013; Roche & Kuperminc, 2012). More research is needed to unpack acculturative stress itself.

Overall, acculturation variables independently explained more variance in self-reported psychological distress than in teacher-reported acting-out or behavioral competence. These findings suggest that acculturation variables may be more directly related to internal psychological processes than for observable behavioral adjustment. In addition, there is likely shared variance among self-report measures that does not exist with teacher-reported measures (Kuperminc, Jurkovic, et al., 2009). Future research should assess the extent to which dimensions of acculturation are important for measures of psychological adjustment other than

psychological distress and how acculturation relates to behavioral adjustment across reporters and settings (i.e. home, workplace).

4.1   Implications for Practice and Research

Given this study's findings on the ways in which affective, behavioral, and cognitive dimensions of acculturation are differentially associated with psychological and behavioral adjustment, there are several implications for prevention and interventions efforts that address Latino youths' well-being. Programs may benefit from focusing on maintaining important aspects of Latino cultural heritage while also encouraging biculturalism. English language learning programs for Latino youth could provide culturally sensitive and positive content to engender Latino cultural pride, identification, and values, while simultaneously increasing English language skills. The results from this study also support previous research findings, which suggest the need for intervention and prevention efforts to focus on helping Latino youth improve their self-esteem and manage family conflict that may arise as youth adopt values, beliefs, and behaviors of a new culture (Lawton & Gerdes, 2014; Rodriguez et al., 2007; Zamboanga et al., 2009). Findings may also be relevant for clinical settings in which young Latinos could be urged to explore and process their Latino and American identities, and the stress that often accompanies cultural transitions.

Current findings highlight the importance of addressing acculturative stress when developing prevention programs and clinical treatment plans for Latino youth. Sherman et al. (2013) found that self-affirming practices such as journaling and values affirmation helped Latino youth overcome problems with stereotype and identification threat. These same principles may be effective in addressing problems related to acculturative stress. Programs taking a multi-level or systemic approach can intervene with schools and communities to decrease Latino

youths' acculturative stress related to discrimination through pro-Latino messaging and cultural awareness efforts. Similarly, programs can address assimilation stress on a systemic level by establishing policies and cultural norms that help newcomers feel more welcomed in a particular community. By creating settings in which Latino youth are encouraged to embrace their Latino-roots while simultaneously providing resources for thriving in the U.S., organizations may help to increase Latino youths' overall adjustment.

The findings support a multidimensional, dynamic theoretical framework for acculturation research. Each dimension of acculturation was differentially related to contextual factors and adjustment outcomes, reinforcing the argument that acculturation itself is best understood as a multidimensional construct. Unspecified uses of the term "acculturation" do not reflect the nuances of the construct. More comprehensive methods for measuring acculturation are needed as the field continues to move toward a multidimensional approach. Specifically, bilinear and multidimensional measures that address affective, cognitive, and behavioral dimensions of acculturation are needed (Birman & Simon, 2013). Acculturation researchers must be careful to analyze these dimensions both together and separately as each dimension may have different associations with outcome variables. It is also becoming evident that contextual factors such as time in the U.S. and acculturative stress play an important role in acculturation and should be consistently addressed in acculturation research.

A growing body of literature has demonstrated the importance of addressing acculturation at the dimensional level and including contextual factors (Birman & Simon, 2013; Schwartz et al., 2010); the findings from this study reveal the significance of a multidimensional framework for Latino youth, specifically. Previous research has revealed that acculturation patterns and trajectories differ across cultural groups, so the findings obtained in studies of one

population cannot be generalized to other populations (Makarova & Birman, 2015). This study revealed that each dimension of acculturation had differential associations with measures of adjustment, and that differentiating dimensions can help interpret discrepancies in past research by uncovering these dimensional differences. What is still unknown is how the dimensions of acculturation relate with one another to affect adjustment outcomes.

4.2   Limitations and Future Directions

Although the current study provided further insight into the associations among different dimensions of acculturation and psychological and behavioral outcomes, there were several limitations. Because this study used cross-sectional data, no causal inferences can be made about the associations among acculturative processes and adjustment. The undersized sample limited the possibility of testing all of the dimensions of acculturation in one hierarchical regression model, which would have provided more insight into how the dimensions of acculturation related with one another. The sample size also prohibited a full examination of potential differences by country of origin and it limited power for detecting interactions that might be present. In addition, the language preference measure used was out of line with the current theory that acculturation is not a linear process beginning with Spanish preference and ending with English preference. As such, the continuous measure had to be split into three separate categories.

The sample for this study was from one high school in one destination city and is not necessarily generalizable to other settings. Recent research indicates that acculturation processes and outcomes differ by receptivity of the destination city, so a sample from another city with a long history of Latino immigration may show different results than this sample from a relatively new destination in the Southeast (Schwartz et al., 2014). Study participants also self-selected by approaching the information booth in the school cafeteria, which may denote unique individual

characteristics of the sample and limit generalizability. Current anti-immigrant policies, laws, culture, and rhetoric occurring across the U.S. likely impact acculturation processes for Latino youth and limit generalizability of these results, which were taken from a population that lived in a different cultural climate. Studies with participants living in the current anti-immigrant climate are needed to understand how acculturation processes might differ depending on broader cultural context and how this cultural climate affects acculturation processes and well-being in general.

Future studies employing larger sample sizes and data collection at multiple time points could shed light on acculturation processes in association with adjustment over time. In addition, future studies may benefit from including contextual variables beyond age of arrival and acculturative stress, such as general cultural climate and receptivity of destination city across multiple cities. It is also important for future studies to test other measures of each dimension of acculturation to gain a more nuanced understanding of the dimensions themselves. Whereas the current study's findings point to the importance of considering multiple dimensions of acculturation, they offer little insight into how these dimensions work in combination. Person-centered approaches that seek to identify homogeneous groups of people with similar multidimensional acculturation profiles may offer a more holistic perspective on how acculturation processes relate to adjustment outcomes. By utilizing cluster and other profile analyses, a person-centered, comprehensive picture of acculturation processes and adjustment at the individual level may begin to emerge. Findings from this study and future research may help provide scientists and practitioners a better understanding of the associations among acculturation processes, context, and Latino youth adjustment.

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APPENDICES

Appendix A. Ethnic Identification Measure Informed by Phinney and Devich-Navarro, 1997

If you had to pick one phrase to describe yourself, which one would you pick?

Latino/a	Latino/a-American, Latino/a First	Latino/a-American, Blend of Both	Latino/a-American, American First	American
1	2	3	4	5

Appendix B. Language Acculturation Scale (Marín and Marín, 1991)

1. In general, in what language do you read?
   Only Spanish   1
   Spanish more than English   2
   Both Equally   3
   English more than Spanish   4
   Only English   5

2. In general, in what language do you do math?
   Only Spanish   1
   Spanish more than English   2
   Both Equally   3
   English more than Spanish   4
   Only English   5

3. In what language do you usually think?
   Only Spanish   1
   Spanish more than English   2
   Both Equally   3
   English more than Spanish   4
   Only English   5

4. What language do you usually speak at home?
   Only Spanish   1
   Spanish more than English   2
   Both Equally   3
   English more than Spanish   4
   Only English   5

5. What language do you usually speak with your friends?

Only Spanish	1
Spanish more than English	2
Both Equally	3
English more than Spanish	4
Only English	5

Appendix C. Familism Scale (Sabogal et al., 1987)

		Not At All True	Slightly True	Somewhat True	Very True
1.	All adults should be respected.	1	2	3	4
2.	More parents should teach their children to be loyal to the family.	1	2	3	4
3.	It is more important for a woman to learn how to take care of the house and the family than it is for her to get a college education.	1	2	3	4
4.	The stricter the parents, the better the child.	1	2	3	4
5.	Some equality in marriage is a good thing, but the father ought to have the main say-so in family matters.	1	2	3	4
6.	Even if a child believes that his parents are wrong, he should obey without question.	1	2	3	4
7.	Relatives are more important than friends.	1	2	3	4
8.	For a child, the mother should be the dearest person in the world.	1	2	3	4
9.	A girl should not date a boy unless her parents approve.	1	2	3	4
10.	Not matter the cost, dealing with my relatives' problems comes first (is priority).	1	2	3	4
11.	I expect my relatives to help when I need them.	1	2	3	4
12.	My family frequently participates in school-sponsored activities.	1	2	3	4

Appendix D. Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale (Mena, Padilla, and Maldonado, 1987)

		Not At All True	Slightly True	Somewhat True	Very True
1.	I feel bad when others make jokes about or put down Latinos.	1	2	3	4
2.	I have more problems to overcome than most people do.	1	2	3	4
3.	It bothers me that my family does not understand my new American values.	1	2	3	4
4.	People in my family who I am close to have plans for when I grow up that I don't like.	1	2	3	4
5.	It is hard to tell my friends how I really feel.	1	2	3	4
6.	It bothers me to think that so many people use drugs.	1	2	3	4
7.	It bothers me that some of my family does not live near me.	1	2	3	4
8.	I sometimes feel that being Latino(a) makes it hard to get a good job.	1	2	3	4
9.	I don't have any close friends	1	2	3	4
10.	Many people have stereotypes about Latinos and treat me as if those things are true.	1	2	3	4
11.	I don't feel at home in the United States.	1	2	3	4
12.	People think I am shy when I really just have trouble speaking English.	1	2	3	4
13.	I often feel that people try to stop me from improving myself.	1	2	3	4
14.	It bothers me when people pressure me to be like everyone else.	1	2	3	4
15.	I often feel ignored by people who are supposed to help me.	1	2	3	4
16.	Because I am Latino(a), I do not get enough credit for the work I do.	1	2	3	4
17.	It bothers me that I have an accent.	1	2	3	4
18.	It's hard to be away from the country that my family is from.	1	2	3	4
19.	I often think about my cultural background.	1	2	3	4
20.	Because I am Latino(a), I feel that	1	2	3	4

others (neighbors, students) don't
include me in their activities.

21.	Being with my family in a public place makes me feel really different.	1	2	3	4
22.	People look down on my Latino customs.	1	2	3	4
23.	I have trouble understanding others when they speak English.	1	2	3	4
24.	I feel at home here in Georgia.	1	2	3	4

Appendix E. Weinberger Adjustment Inventory, distress scale (Weinberger and Schwartz, 1990)

		Not At All True	Slightly True	Somewhat True	Very True
1.	I usually think of myself as a happy person.	1	2	3	4
2.	In reality I don't like myself very much.	1	2	3	4
3.	I'm not very sure of myself.	1	2	3	4
4.	I worry too much about things that aren't important.	1	2	3	4
5.	I'm the kind of person who has a lot of fun.	1	2	3	4
6.	I often feel sad or unhappy.	1	2	3	4
7.	I usually feel I'm the kind of person I want to be.	1	2	3	4
8.	I feel nervous of afraid that things won't work out the way I would like them to.	1	2	3	4
9.	I feel lonely.	1	2	3	4
10.	I get into such a bad mood that I just feel like sitting around and doing nothing.	1	2	3	4
11.	In recent year, I have felt more nervous or worried about things than I have needed to.	1	2	3	4
12.	I feel very happy.	1	2	3	4

Appendix F. Teacher-Child Rating Scale (Hightower et al, 1986)

Please rate this student on the following by circling the number which corresponds to this scale:

		Not a Problem	Mild Problem	Moderate Problem	Serious Problem	Very Serious Problem
1.	Disruptive in class	1	2	3	4	5
2.	Withdrawn	1	2	3	4	5
3.	Underachieving	1	2	3	4	5
4.	Fidgety, difficulty sitting still	1	2	3	4	5
5.	Shy, timid	1	2	3	4	5
6.	Poor work habits	1	2	3	4	5
7.	Disturbs other while they are working	1	2	3	4	5
8.	Anxious, worried	1	2	3	4	5
9.	Poor concentration, limited attention span	1	2	3	4	5
10.	Constantly seeks attention	1	2	3	4	5
11.	Nervous, frightened, tense	1	2	3	4	5
12.	Difficulty following directions	1	2	3	4	5
13.	Overly aggressive to peers	1	2	3	4	5
14.	Does not express feelings	1	2	3	4	5
15.	Poorly motivated to achieve	1	2	3	4	5
16.	Defiant, obstinate, stubborn	1	2	3	4	5
17.	Unhappy, sad	1	2	3	4	5
18.	Learning academic subjects	1	2	3	4	5

Please rate the following items according to how well they describe the student (categories are different from those above):

		Not at All	A little	Moderately Well	Well	Very Well
1.	Accepts things not going his/her way	1	2	3	4	5
2.	Defends own views under group pressure	1	2	3	4	5
3.	Complete work	1	2	3	4	5
4.	Has many friends	1	2	3	4	5
5.	Ignores teasing	1	2	3	4	5

6.	Comfortable as a leader	1	2	3	4	5
7.	Well organized	1	2	3	4	5
8.	Is friendly toward peers	1	2	3	4	5
9.	Accepts imposed limits	1	2	3	4	5
10.	Participates in class discussions	1	2	3	4	5
11.	Functions well even with distractions	1	2	3	4	5
12.	Makes friends easily	1	2	3	4	5
13.	Copes well with failure	1	2	3	4	5
14.	Expresses ideas willingly	1	2	3	4	5
15.	Works well without adult support	1	2	3	4	5
16.	Classmates wish to sit near this child	1	2	3	4	5
17.	Tolerates frustration	1	2	3	4	5
18.	Questions rules that seem unfair/unclear	1	2	3	4	5
19.	A self starter	1	2	3	4	5
20.	Well liked by classmates	1	2	3	4	5