

# Direct and Mediated Effects of Nativity and Other Indicators of Acculturation on Hispanic Mothers' Use of Physical Aggression

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## Abstract

This study used data from 845 foreign-born ( $n = 328$ ) and native-U.S. born ( $n = 517$ ) Hispanic mothers who participated in the Fragile Families and Child Wellbeing Study (FFCWS) to examine four indicators of acculturation—nativity, years lived in the United States, religious attendance, and endorsement of traditional gender norms—as predictors of maternal physical aggression directed toward young children. The authors also examined whether psychosocial risk factors associated with child maltreatment and acculturation—maternal alcohol use, depression, parenting stress, and intimate partner aggression and violence—mediate relationships between acculturation and maternal aggression. Foreign-born Hispanic mothers had significantly lower rates of physical aggression than native-born Hispanic mothers. In path modeling results, U.S. nativity, along with maternal alcohol use, parenting stress, and child aggressive behavior, emerged as the strongest risk factors for maternal physical aggression. Among the four acculturation indicators, only foreign birth was directly associated with lower maternal aggression. Study findings suggest immigrant status is a unique protective factor that contributes to lower levels of physical aggression among Hispanic mothers.

## Keywords

aggressive behavior, ethnic minority populations, immigrant families, mothers, physical abuse, sociocultural factors

The Hispanic population now constitutes the largest minority group in the United States, accounting for over 15% of the U.S. population and 47% of the U.S. foreign-born population (U.S. Census, 2009). By the year 2050 Latinos are projected to account for 29% of the U.S. population, an increase that represents the largest portion of U.S. population growth between 2005 and 2050; and many of these individuals are likely to be foreign-born (Passel & Cohn, 2008). Although Hispanic children are 19.4% of all children in the United States, they constitute only 14.4% of those who come to the attention of child welfare agencies (Dettlaff, Earner, & Phillips, 2009) and 17.0% of all maltreated children (Zhai & Gao, 2009). Official child maltreatment victimization rates among Hispanics are comparable to those among Whites, despite a 270% greater risk of poverty among Hispanic families, suggesting the presence of protective factors that mitigate risk of child maltreatment in Latino families (Drake et al., 2011).

Recent studies with large community samples show that Hispanic parents as a group use less aggression toward children relative to White and African American parents, and less acculturated or foreign-born Latinos used less aggression toward children than more acculturated Latinos (Berlin et al., 2009; Lee, Perron, Taylor, & Guterman, 2011; Taylor, Guterman, Lee, & Rathouz, 2009). This body of work suggests that foreign birth and lower acculturation may play a significant role in

mitigating risk of child maltreatment in Hispanic families, given that parent-to-child aggression is known to increase the risk of child maltreatment (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). However, little is known about variations in use of aggression and factors that contribute to lower use of aggression among Hispanic parents.

The current study focused on use of physical aggression toward young children among Hispanic mothers. We used measures of physical aggression that encompass a range of behaviors. Some of these behaviors would constitute child maltreatment (e.g., shaking a child). Other behaviors, such as spanking, increase risk of physical child abuse (Gershoff, 2002; Straus et al., 1998). Of specific interest to this study was examining mechanisms through which foreign birth and lower acculturation may protect against maternal use of physical aggression in a large sample of immigrant foreign-born and native U.S.-born Hispanic mothers.

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## Acculturation, Nativity, and Maternal Aggression

Psychological acculturation refers to individual-level changes in cultural domains, such as behaviors, attitudes, and values, as a result of contact with a new host culture (Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Acculturation is a complex, multidimensional construct, and many have argued that assessing acculturation with a unidimensional measure is inadequate (e.g., Berry, 2003; Schwartz et al., 2010). At the same time, because acculturation encompasses a range of processes that can operate independently and at different temporal scales, using aggregated measures of acculturation is also unsound; Phinney and Flores (2002) recommend examining effects of different acculturation components independently when linking acculturation to a particular outcome. We follow the second approach by examining several acculturation indicators, rather than one global acculturation measure, in relation to maternal use of aggression toward young children.

While acculturation focuses on cultural change, it links that change to contact with a culture different from one's culture of origin. Two frequently used indicators of acculturation are immigrant generation and years spent in a new society; rather than being direct measures of cultural change, these indicators are proxies for an individual's contact with the host culture and culture of origin. Whereas the number of years spent in a new society is assumed to correspond to relatively rapid change, immigrant generation corresponds to differences that are observed across lifetimes. Moreover, immigrant generation may serve as a proxy for contexts of early socialization, and foreign birth may be protective because immigrants are likely to be healthier than those who chose not to migrate (Franzini, Ribble, & Keddie, 2001). In Hispanic samples, nativity and years lived in the United States have been associated with adoption of host cultural practices, an indicator of acculturation (Schwartz, Pantin, Sullivan, Prado, & Szapocznik, 2006). Of the studies that have thus far found differences in use of aggression among Hispanic mothers, one study assessed acculturation with a combination of nativity and language use (Berlin et al., 2009), while the other two studies used nativity as the key differentiating variable (Lee et al., 2011; Taylor et al., 2009). In this study, we similarly used nativity as an indicator of acculturation. We hypothesized that nativity will be associated with differences in maternal aggression because it represents the context of early socialization for mothers, which is likely to influence their own parenting practices. A strength of the current study is that we also examined whether the length of contact with U.S. culture among immigrant women, assessed in terms of years lived in the United States, was associated with differences in maternal use of aggression.

### Additional Acculturation Indicators That May Impact Maternal Aggression

In addition to nativity and time lived in the United States, we also examined whether two cultural practices that change with

acculturation—endorsement of traditional gender norms and religious attendance—may be associated with maternal aggression. Traditional gender norms reinforce the role of mothers as nurturers responsible for day-to-day child care, while fathers are seen as breadwinners, providers of instrumental support, and disciplinarians (Parra-Cardona, Cordova, Holtrop, Villaruel, & Wieling, 2008). Foreign-born and less acculturated Latinas are more likely to endorse traditional gender roles than their U.S.-born and more acculturated counterparts (Parra-Cardona et al., 2008; Phinney & Flores, 2002). It is possible that traditional gender norms may reinforce greater nurturance among mothers and, thus, be associated with lesser use of aggression. However, there is little empirical evidence on which to base this hypothesis, as few studies have examined endorsement of traditional gender norms as a predictor of child maltreatment or maternal aggression. One study found that greater endorsement of traditional gender norms among fathers was associated with lower sensitivity to child maltreatment, which was assessed in terms of parents' ratings of the severity of child maltreatment presented in vignettes, but this association was not found among mothers (Ferrari, 2002). In the current study, we examined whether endorsement of traditional gender norms directly and indirectly related to mothers' use of physical aggression toward young children.

Religious attendance is another cultural practice that may be associated with both acculturation and maternal use of physical aggression. Recent Latino immigrants are more likely to attend religious services (Gallo, Penedo, Espinosa de los Monteros, & Arguelles, 2009). Regular religious attendance has been associated with decreased risk of child maltreatment (Zolotor & Runyan, 2006) and positive parenting (Hill, Burdette, Regnerus, & Angel, 2008), with some of the link between religious attendance and positive parenting mediated by social support provided by a religious community (Hill et al., 2008). Thus, greater religious attendance may be associated with lower maternal aggression. To our knowledge, prior research has not examined the relationship between religious attendance and use of aggression among Hispanics. We examined whether greater religious attendance directly and indirectly protected against mothers' use of physical aggression toward young children.

### Acculturation and Psychosocial Predictors of Maternal Aggression

The developmental-ecological framework proposes that risk of child maltreatment is influenced by individual level parental characteristics, family level factors, and the broader context (Belsky, 1984). A number of individual-level maternal psychosocial risk factors are well established in the literature, as factors that heighten risk for physical child abuse and maternal aggression, including alcohol use (Berger, 2005; Ondersma, 2002; Osborne & Berger, 2009), maternal depression (Chung, McCollum, Elo, Lee, & Culhane, 2004; Windham et al., 2004), and parenting stress (Taylor et al., 2009). Furthermore, research has demonstrated that prevalence of these

psychosocial risk factors may be differentiated by nativity status and other acculturation indicators. Among Latinas, foreign birth is associated with lower levels of alcohol use (Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998) and depression (Escobar, Nervi, & Gara, 2000). Although few prior studies have examined differences in parenting stress among foreign-born and native-born mothers, in one study of child welfare involved families, levels of parenting stress were lower among foreign-born than native-born Hispanic families (Dettlaff et al., 2009). While nativity has the most empirical evidence linking it to psychosocial factors related to maternal aggression, there is evidence that the other three acculturation indicators examined in this study are also linked to maternal psychosocial risk factors. The number of years lived in the United States is positively associated with greater alcohol consumptions (Caetano, Ramisetty-Mikler, Caetano, & Harris, 2007) and depression (Escobar et al., 2000). In multiethnic samples, greater religiosity has been linked to lower levels of depression (Smith, McCullough, & Poll, 2003), alcohol consumption (Michalak, Trocki, & Bond, 2007), and stress (Klaassen, McDonald, & James, 2006). Endorsement of traditional gender norms has received less empirical attention as a predictor of depression, stress, and alcohol use; however, one study of adolescents in Mexico found that affective femininity was associated with lower alcohol consumption (Kulis, Marsiglia, Lingard, Nieri, & Nagoshi, 2008), while another study found that submissive femininity was associated with greater internalizing among Mexican American adolescents (Kulis, Marsiglia, & Nagoshi, 2010). Taken together, this evidence suggests that alcohol use, depression, and parenting stress are individual psychosocial variables that may serve as mediating mechanism through which nativity and acculturation influence maternal physical aggression toward young children. We examined this hypothesis by assessing the direct influence of these psychosocial factors on maternal physical aggression, as well as assessing these factors as mediators linking nativity, years lived in the United States, religious attendance, and endorsement of traditional gender norms with Hispanic mothers' use of physical aggression.

At the family level, prior studies indicate that intimate partner aggression and violence is a risk factor associated with higher levels of child maltreatment and parental aggression (Taylor et al., 2009; Windham et al., 2004). Immigrant women are more likely to experience intimate partner aggression and violence (Raj & Silverman, 2002; Taylor et al., 2009). However, several studies with Latino populations found that once sociodemographic factors are considered less acculturated individuals have lower rates of intimate partner aggression and violence (Caetano et al., 2007; Charles & Perreira, 2007; Lown & Vega, 2001), while another study did not find an association between acculturation and rates of intimate partner aggression and violence (Cunradi, 2009). Greater religious attendance has been associated with lower levels of intimate partner aggression and violence among Hispanics (Ellison, Trinitapoli, Anderson, & Johnson, 2007; Lown & Vega, 2001), while adherence to traditional gender norms has been linked with greater vulnerability to intimate partner aggression and violence (Raj & Silverman,

2002). Thus, the extant literature leaves us with two questions, which are addressed in this study. Do foreign-born Hispanic mothers experience different rates of intimate partner aggression and violence than U.S.-born Hispanic mothers? And, does intimate partner aggression and violence mediate effects of nativity and acculturation on maternal aggression?

## This Study

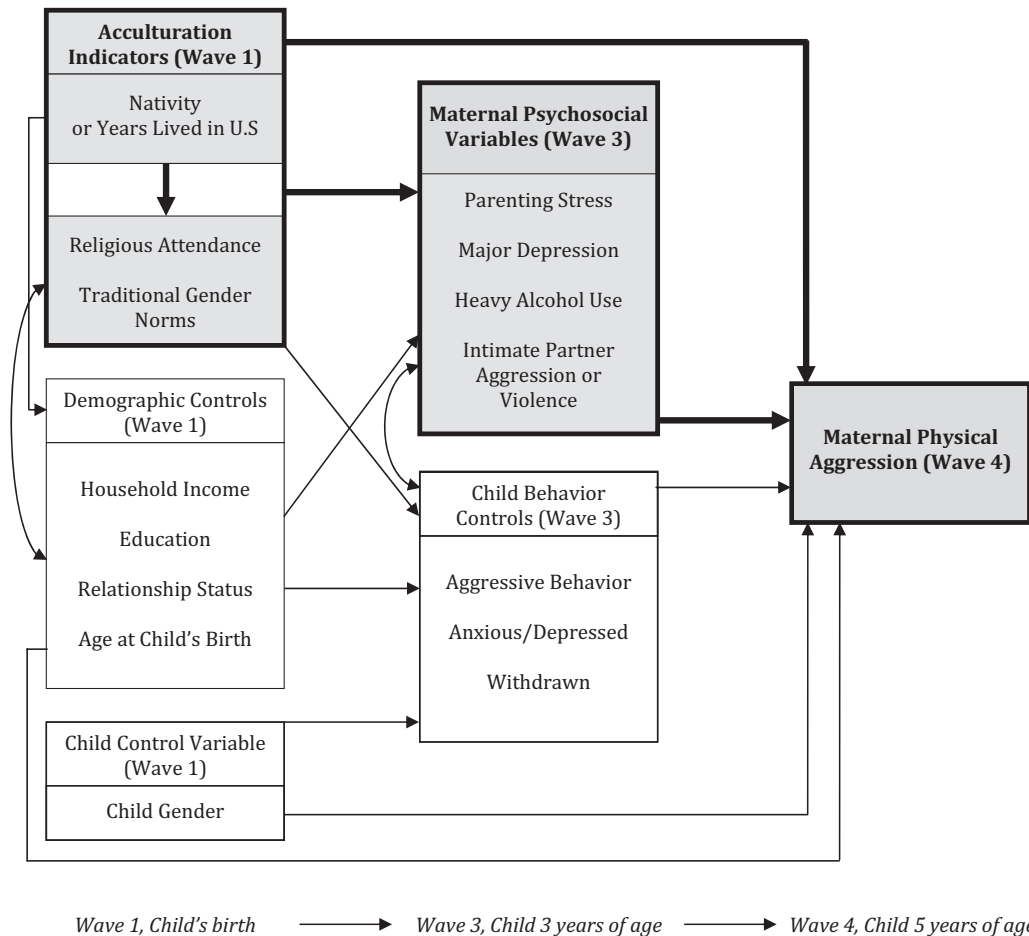
This study uniquely contributes to the maltreatment literature by (a) examining the relationship of four indicators of acculturation—nativity, years lived in the United States, endorsement of traditional gender norms, and religious attendance—with maternal use of physical aggression toward children in a large, diverse sample of native-born and foreign-born Hispanic mothers and (b) assessing whether psychosocial risk factors for child maltreatment—maternal alcohol use, depression, parenting stress, and intimate partner aggression and violence—mediate these relationships. Figure 1 presents the hypothesized relationships from acculturation indicators through psychosocial variables to maternal aggression. We used a time-lagged path model to estimate direct and indirect effects of acculturation indicators and psychosocial risk factors on Hispanic mothers' use of physical aggression. In our model, we controlled for sociodemographic variables shown in prior research to be associated with maternal maltreatment risk, including low income, maternal relationship status, maternal education, and age at child's birth (Berger, 2005; Berger, Paxson, & Waldfogel, 2009; Lee & Goerge, 1999). The rigor of our analyses was enhanced by the fact that we also controlled for child behavioral problems, following from the logic that parent-child relationship are reciprocal and that mothers' aggression often leads to children exhibiting more behavioral problems, which further increases mothers' use of aggression (Patterson, 1982).

## Method

### Data

This study used data from mothers who participated in the Fragile Families and Child Wellbeing Study (FFCWS) core interviews and the add-on "In-Home Longitudinal Study of Pre-School Aged Children." FFCWS is a birth-cohort study ( $N = 4,898$ ) conducted in 20 U.S. cities with populations over 200,000. Mothers were recruited at hospitals and over the phone. Verbal and written informed consent was obtained from participants at each interview, and participants were compensated for their involvement in the study. All respondents were informed of the interviewers' obligation to report observations of child abuse. A detailed description of the FFCWS sampling strategy and interview protocol is published elsewhere (Reichman, Teitler, Garfinkel, & McLanahan, 2001).

Mothers were interviewed for the core interview at Wave 1 (near the time of the target child's birth) and at 1 (Wave 2), 3 (Wave 3), and 5 years (Wave 4) following birth. At the 3-year core interview, target children were on average 35.8 months old ( $SD = 2.65$ ). At the 5-year core interview, target children



**Figure 1.** Hypothesized direct and mediated relationships between acculturation indicators, psychosocial risk factors, controls, and maternal physical aggression.

were on average 62.0 months old ( $SD = 3.15$ ). As an add-on to the core FFCWS study, a subset of mothers participated in the In Home Study during Waves 3 ( $n = 3,288$ ) and 4 ( $n = 3,024$ ), during which mothers' disciplinary practices and child behavioral assessments were collected. Our analyses focused on data from 845 self-identified Hispanic mothers who participated in both the 3-year core interview ( $n = 1,336$ ) and 3-year In-Home survey ( $n = 845$ ), of whom 61% were native-born ( $n = 517$ ) and 39% were foreign-born ( $n = 328$ ). Mothers reported on their countries of origin at Wave 1 indicating that they were predominantly of Mexican descent ( $n = 488$ ), with the second largest subset of mothers from Puerto Rico ( $n = 119$ ). The remaining Hispanic mothers in our sample were from Central America/Caribbean ( $n = 34$ ), South America ( $n = 16$ ), Cuba ( $n = 10$ ), and Europe ( $n = 4$ ); a subset of mothers chose the "Other Hispanic" option ( $n = 128$ ), and nativity information was missing for 46 mothers in our sample.

### Measures

All variables used in this study were based on mothers' self-reports. Indicators of acculturation, including nativity status,

years lived in the United States (for foreign-born mothers), religious attendance, and traditional gender norms were assessed at the baseline interview when children were born (Wave 1). Demographic variables, such as maternal age, relationship status, education level, and family income were also assessed at the time of children's births (Wave 1). Psychosocial variables (parental stress, depression, alcohol use, and intimate partner aggression and violence) and child behavior variables were assessed at Wave 3 when children were approximately 3 years of age. Maternal use of physical aggression was assessed at Wave 4 when children were approximately 5 years old.

**Maternal use of physical aggression.** The Parent-Child Conflict Tactics Scale (Straus et al., 1998) assessed maternal self-report of mother-to-child physical aggression at Wave 4 when children were approximately 5 years old. Physical aggression was measured with 5 items that asked how many times in the past year the mother did the following toward the child: "Spanked (him/her) on the bottom with bare hand," "Shook (child)," "Pinched (him/her)," "Slapped (him/her) on the hand, arm, or leg," or "Hit (him/her) on the bottom with a hard object." Incidence rates differed significantly across aggressive acts,

thus, following recommendations by scale authors (Straus et al., 1998) we used a count variable that approximated the total number of aggressive acts toward the child in the prior year. Response categories and their contributions to the count variable were as follows: once in the past year (1); twice (2); 3–5 times (counted as 4 times); 6–10 times (counted as 8 times); 11–20 times (counted as 15 times); more than 20 times (counted as 25 times) in the past year; it happened but not in the past year, or this never happened (not counted). Mothers' physical aggression count scores ranged from 0 to 120 with a mean count of just over nine aggressive acts in the past year ( $M = 9.21$ ,  $SD = 13.84$ ). The count of physically aggressive acts was log transformed for analyses to satisfy normality assumptions.

**Nativity status and other indicators of acculturation.** Nativity status was determined by mothers' self-reported country of birth (0 = *native U.S.-born*, 1 = *foreign-born*). For foreign-born mothers, we also calculated a variable for years lived in the United States based on mothers' report of year of entry into United States at Wave 1. Religious attendance was measured by frequency of religious service attendance in the past year at Wave 1 (0 = *hardly ever* to 4 = *once a week or more*). Endorsement of traditional gender norms was measured at Wave 1 with: "The important decisions in the family should be made by the man of the house;" "It is much better for everyone if the man earns the main living and the woman takes care of the home and family;" and "Parents should stay together for the children, even if they don't get along" (1 = *strongly disagree* to 4 = *strongly agree*). A mean score was used in analyses ( $\alpha = .68$ ).

Although language use is an important indicator of acculturation, the only language variable available in the FFCWS is whether interviews were conducted in English or Spanish. A majority of foreign-born Hispanic mothers completed the baseline interview in Spanish (71%), while few U.S-born Hispanic mothers completed the interview in Spanish (3%). Thus, interview language was highly associated with nativity (Spearman's  $\rho = .729$ ) such that both variables could not be included in analyses due to multicollinearity. We used nativity in our analyses as we believe this to be a more substantively significant variable than interview language.

### Maternal Psychosocial Risk Factors

**Parenting stress.** The Parenting Stress Index Short Form (Abidin, 1995) was used to assess mothers' parenting stress during the In Home Study when children were 3 years of age. Mothers indicated their agreement (1 = *strongly agree* to 4 = *strongly disagree*) with 11 items including, "Being a parent is harder than I thought it would be" and "I feel trapped by my responsibilities as a parent" ( $\alpha = .87$ ). Responses were reverse-scored and a mean score created, such that higher numbers indicated more parenting stress.

**Major depression.** At Wave 3, mothers answered questions assessing the *Diagnostic and Statistical Manual of Mental*

*Disorders* (Third edition, Revised; *DSM-III-R*) diagnostic criteria for major depression (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998), indicated by a period of 2 or more weeks in the past year during which they experienced depressed mood most of the day, nearly every day, and by meeting the diagnosis specific symptom criteria. The variable was dichotomized to indicate whether mothers met DSM-III-R criteria for depression (0 = *no*, 1 = *yes*).

**Heavy alcohol use.** Heavy alcohol use was defined as four or more drinks (coded "1") or 0–3 drinks (coded "0") consumed in a single day in the past 12 months and assessed at Wave 3. This measure follows the National Institute on Alcohol Abuse and Alcoholism definition of heavy drinking days (i.e., four or more drinks in a single day; National Institute on Alcohol Abuse and Alcoholism, 2005).

**Intimate partner aggression or violence.** This variable measured the mothers' report of physical or psychological aggression from spouse or current partner. Four items were adapted from Lloyd (1996) and the Spouse Observation Checklist (Weiss & Margolin, 1977) to assess psychological aggression (e.g., "He tries to keep you from seeing or talking with your friends or family"). Three items were adapted from the Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) to assess physical aggression (e.g., "He slaps or kicks you"). For ease of interpretation and because aggression was skewed toward few acts of intimate partner aggression or violence, a dichotomous variable (0 = *no*, 1 = *yes*) was used in analyses to indicate any instance of intimate partner aggression and violence.

**Child behavior factors.** The aggressive behavior, anxious/depressed, and withdrawn subscales of the Child Behavior Checklist 1 1/2–5 (Achenbach & Rescorla, 2000) were administered to mothers at Wave 3. All subscale scores were based on an ordinal scale (0 = *not true*, 1 = *somewhat or sometimes true*, 2 = *very true or often true*). The aggressive behavior subscale consisted of 19 items such as "(He/she) is defiant" and "(He/she) gets in many fights" ( $\alpha = .87$ ). The anxious/depressed subscale consisted of 8 items such as "(He/she) clings to adults or is too dependent" and "(His/her) feelings are easily hurt" ( $\alpha = .62$ ). The withdrawn subscale consisted of 8 items such as "(He/she) avoids looking others in the eye" ( $\alpha = .66$ ). A sum score of Child Behavior Checklist variables within each subscale was used for analyses with higher numbers indicating greater level of problematic behaviors. The FFCWS did not use all items from the Child Behavior Checklist; therefore, it was not possible to calculate meaningful clinical cutpoints (as suggested in Achenbach & Rescorla, 2000) within the current data set.

**Socioeconomic and demographic controls.** We included four control variables previously found in large samples to be predictive of child maltreatment (Lee & Goerge, 1999) and corporal punishment (Berger, 2004): household income, education level (1 = *less than high school*, 2 = *high school degree or GED*, 3 = *some college/technical school or higher*),

relationship status (1 = *married*, 2 = *cohabiting*, 3 = *not married or cohabiting*), and mother's age at time of child's birth, which were assessed at Wave 1. Child gender, which has been related to maltreatment (Lee & Goerge, 1999), was also included in the models (0 = *girl*, 1 = *boy*).

### Analytic Strategy

Foreign-born and native-born Hispanic mothers were compared on all study variables using bivariate analyses (independent samples *t* tests and Pearson's chi-square tests). A path model estimated within the structural equation modeling framework was used to assess direct and mediated relationships between acculturation indicators, psychosocial risk factors, and mothers' use of physical aggression toward their children, while controlling for sociodemographic variables and child behavior. Figure 1 shows the temporal ordering and hypothesized relationships among variables in the path model. Path analyses were conducted in Mplus 6.1. Weighted least squares estimation was used to accommodate binary and ordinal variables, and residual covariances between them; as a result, path coefficients represent results of probit regression. The chi-square test, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) were used to evaluate fit between the hypothesized models and observed data, with cutoff values of .95 for CFI and .06 for RMSEA establishing good fit (Hu & Bentler, 1999). In estimating direct effects of predictors on maternal aggression, we adjusted standard errors for the clustering of respondents within cities; this adjustment was particularly important in our model because nativity was strongly associated with mothers' city or residence,  $\chi^2(17) = 228, p < .001$ .

Path modeling allowed us to estimate both direct and mediated relationships between multiple predictors and maternal aggression simultaneously. Unlike regression analyses, path models simultaneously compute relationships among predictors (both directional paths and covariances among residuals), as well as relationships between predictors and outcomes. In our path model, we accounted for the temporal ordering of variables relative to each other, with more proximal predictors assessed at Wave 3 regressed on more distal variables assessed at Wave 1; maternal aggression was regressed on all variables at Waves 1 and 3. Our model also accounts for associations among contemporaneous variables through residual covariances; this approach guards against model misspecification when variables within the same time point covary and is recommended by Preacher and Hayes (2008) for estimating models with multiple mediators.

Following from exploratory analyses showing that foreign-born and native-born Hispanic mothers differed significantly on levels of aggressive parenting, we conducted multigroup analyses to examine whether there were significant differences between the two groups in path models predicting aggressive parenting. However, multigroup analyses showed that a single model for both groups was more parsimonious; that is, models for foreign-born and native-born Hispanic mothers did not differ enough to warrant separate estimation for each group.

To estimate indirect effects of acculturation indicators on maternal aggression mediated by psychosocial risk factors, we followed the approach proposed by Preacher and Hayes (2008) for assessing multiple mediators simultaneously. We examined both total indirect effects from each acculturation indicator to maternal aggression, as well as specific indirect effects through maternal psychosocial risk factors, our mediators of interest. The product-of-coefficients approach was used for calculating indirect effects, as suggested by Preacher and Hayes, such that a total indirect effect is the sum of specific indirect effect through each mediator. Because this approach assumes that the product of path coefficients will adhere to multivariate normality assumptions, an assumption that is difficult to meet, we used bootstrapping (with 1,000 iterations) to adjust for bias in standard errors associated with indirect effects (Preacher & Hayes, 2008). Unfortunately, it was not possible to adjust standard errors both for clustering by city and through bootstrapping. We examined estimates of indirect effects using both approaches and found them to be similar; thus, we present indirect effects estimated with the bootstrapped model as recommended. In the estimation of direct effects, however, standard errors appeared to be unduly biased when clustering by city was not included. Because of the strong association between nativity and city of residence, we opted to adjust direct effects standard errors for clustering rather than bootstrapping, and guarded against multivariate nonnormality by making sure that all variables met strict normality assumptions.

Based on the final sample of 845 mothers who were eligible for this study, across all predictors (assessed at Waves 1 and 3) data were missing in 0–1% of cases. For maternal physical aggression (assessed at Wave 4, 5 years following baseline), data were missing in 30% of cases due to sample attrition. Other studies have found that FFCWS longitudinal subsamples with data available on all variables differ significantly from subsamples with some missing data in terms of immigrant status, as well as other covariates of interest in our study (Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009). Thus, we did not want to limit our analyses only to complete cases. Similar to the approach taken by Cooper and colleagues (2009), we consider all cases and missing data patterns in our analyses using full information estimation with categorical variables in Mplus, so as to avoid missing data bias and to maximize sample size. We also estimated our model with complete case analysis (listwise deletion), which yielded results similar to those reported below for the main relationship between nativity status and maternal physical aggression. However, the complete case sample was 30% smaller than the full information estimated sample used for final analyses and thus had diminished statistical power to identify significant relationships for some of the mediating pathways.

## Results

### Descriptive and Bivariate Results

Table 1 presents descriptive statistics for study variables and denotes significant bivariate differences between foreign-born

**Table 1.** Sample Descriptive Statistics

| Variable (Range)                                  | Hispanic Mothers<br><i>n</i> = 845 (100%)<br>% or <i>M</i> ( <i>SD</i> ) |          | Foreign-Born<br><i>n</i> = 328 (39%)<br>% or <i>M</i> ( <i>SD</i> ) |          | Native-Born<br><i>n</i> = 517 (61%)<br>% or <i>M</i> ( <i>SD</i> ) |          | <i>t</i> ( <i>df</i> ) <sup>a</sup> or $\chi^2$ ( <i>df</i> ) |
|---|--|----------|---|----------|--|----------|---|
| Maternal aggression toward child                  |  |          |   |          |  |          |   |
| CTSPC Physical aggression W4 (0–100) <sup>b</sup> | 9.21   | (13.84)  | 6.09  | (9.87)   | 11.00  | (15.41)  | <i>t</i> (585) = -4.72***                                     |
| Acculturation indicators                          |  |          |   |          |  |          |   |
| Years in the U.S (0–34)                           |  |          | 8.87  | (7.05)   |  |          |   |
| Religious attendance W1 (0–4) <sup>b</sup>        | 2.11   | (1.36)   | 2.54  | (1.27)   | 1.84   | (1.34)   | <i>t</i> (839) = 7.56***                                      |
| Traditional gender norms W1 (1–4) <sup>b</sup>    | 2.13   | (0.56)   | 2.41  | (0.53)   | 1.96   | (0.51)   | <i>t</i> (838) = 12.46***                                     |
| Psychosocial variables                            |  |          |   |          |  |          |   |
| Parenting stress W3 (0–5) <sup>b</sup>            | 2.13   | (0.72)   | 2.12  | (0.76)   | 2.13   | (0.70)   | <i>t</i> (640) = -0.16  |
| Major depression W3 (% yes)                       | 18   |          | 15  |          | 19   |          | $\chi^2$ (1) = 3.08   |
| Heavy alcohol use W3 (% yes)                      | 12   |          | 5   |          | 17   |          | $\chi^2$ (1) = 24.45***                                       |
| IPAV W3 (% yes)                                   | 35   |          | 41  |          | 31   |          | $\chi^2$ (1) = 8.56**   |
| Child variables                                   |  |          |   |          |  |          |   |
| Aggressive behavior W3 (0–1.95) <sup>b</sup>      | 0.61   | (0.36)   | 0.55  | (0.35)   | 0.65   | (0.37)   | <i>t</i> (833) = -3.91***                                     |
| Anxious/depressed W3 (0–1.63) <sup>b</sup>        | 0.50   | (0.33)   | 0.52  | (0.35)   | 0.48   | (0.32)   | <i>t</i> (833) = 1.48   |
| Withdrawn W3 (0–1.43) <sup>b</sup>                | 0.29   | (0.28)   | 0.31  | (0.28)   | 0.28   | (0.28)   | <i>t</i> (833) = 1.31   |
| Child gender W1 (% boy)                           | 51   |          | 50  |          | 52   |          | $\chi^2$ (1) = 0.44   |
| Demographic variables                             |  |          |   |          |  |          |   |
| Household income W1 (0–133,750)                   | \$27,910   | (26,312) | \$27,587  | (26,152) | \$28,115   | (26,436) | <i>t</i> (843) = -.284  |
| Education W1                                      |  |          |   |          |  |          | $\chi^2$ (3) = 41.56***                                       |
| Less than high school (%)                         | 50   |          | 64  |          | 41   |          |   |
| High school degree or GED (%)                     | 25   |          | 19  |          | 29   |          |   |
| Some college/tech. school (%)                     | 22   |          | 14  |          | 27   |          |   |
| College or higher (%)                             | 3  |          | 3   |          | 3  |          |   |
| Relationship status W1:                           |  |          |   |          |  |          | $\chi^2$ (2) = 40.69***                                       |
| Married (%)                                       | 24   |          | 35  |          | 17   |          |   |
| Cohabiting (%)                                    | 46   |          | 43  |          | 48   |          |   |
| Not married or cohabiting (%)                     | 30   |          | 22  |          | 36   |          |   |
| Age at child's birth W1 (15–47)                   | 24.86  | (5.98)   | 26.89   | (6.16)   | 23.5   | (5.49)   | <i>t</i> (637) = 7.941***                                     |

Note. W1 = baseline, at time of child's birth; W3 = Wave 3, child 3 years of age; W4 = Wave 4, child 5 years of age; CTSPC = Parent-Child Conflict Tactics Scale; IPAV = father-to-mother intimate partner aggression or violence.

<sup>a</sup> Equal variances not assumed when Levene's test was violated.

<sup>b</sup> Higher scores indicate higher levels of the construct.

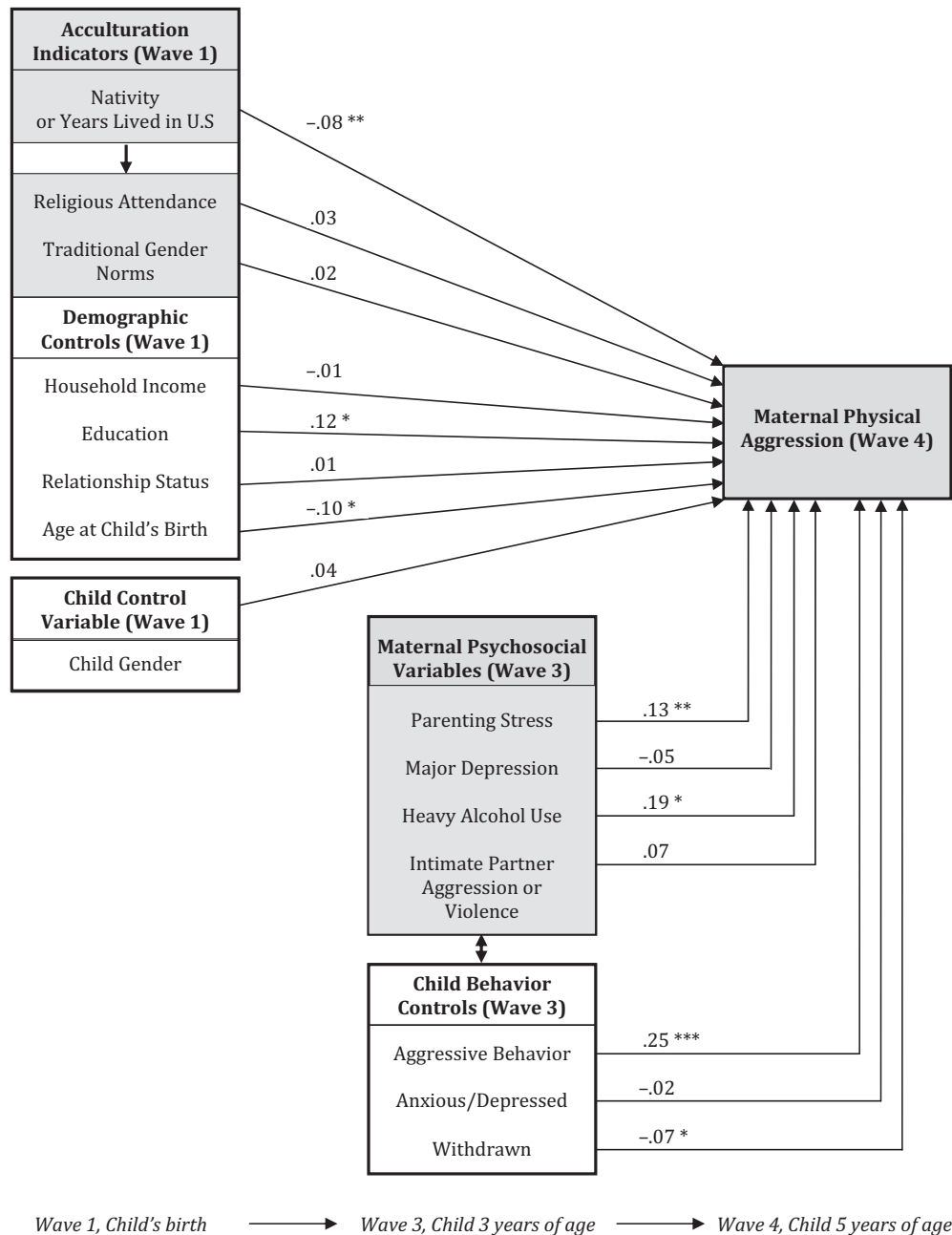
\* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$ , two-tailed, denotes significant difference between FB and NB mothers.

and native-born mothers. Bivariate results show that on average, foreign-born Hispanic mothers exhibit significantly lower levels of physical aggression toward their children than native-born mothers. It is important to note that while rates of physical aggression among native-born Hispanic mothers are higher than those among foreign-born Hispanic mothers, they do not differ from rates of physical aggression among White mothers in the FFCWS sample (Wave 4:  $M = 10.46$ ,  $SD = 13.65$ ), and are significantly lower than physical aggression rates among Black mothers in the FFCWS (Wave 4:  $M = 15.16$ ,  $SD = 17.83$ ). Thus, children of native-born Hispanic mothers are not at elevated risk of experiencing maternal physical aggression, but rather children of foreign-born Hispanic mothers experience lower levels of maternal physical aggression.

The four indicators of acculturation were associated at the bivariate level. As expected, foreign-born mothers had higher levels of religious attendance and endorsement of traditional gender norms than native-born mothers (Table 1). In addition, religious attendance and endorsement of traditional gender norms were moderately correlated ( $r = .203$ ,  $p < .001$ ). Among

foreign-born mothers, years lived in the United States was negatively correlated with endorsement of traditional gender norms ( $r = -.285$ ,  $p < .000$ ), religious attendance, however, was not significantly correlated with the number of years in the United States ( $r = -.090$ ,  $p > .05$ ). These findings support the assertion that different components of acculturation operate at different temporal scales. For example, while nativity was associated with religious attendance, frequency of religious attendance is not a cultural practice that appears to change significantly across years spent in the United States. Conversely, endorsement of traditional gender roles decreases both with generation and years lived in the United States.

Based on our literature review, we expected foreign-born and native-born Hispanic mothers to differ on levels of alcohol use and depression; the extant literature is less certain with regard to differences in levels of parenting stress and intimate partner aggression and violence between these two groups. At the bivariate level of analyses, foreign-born Hispanic mothers had lower levels of heavy alcohol use, but higher rates of interpersonal violence and aggression than native-born mothers in



**Figure 2.** Direct relationships between acculturation indicators, maternal psychosocial risk factors, and maternal aggression, controlling for sociodemographic variables and child behaviors. Standardized regression coefficients are presented here; unstandardized coefficients and standard errors appear in Table 2.

Note. Variables within the same time point were allowed to covary (with the exception of child gender); these relationships are not shown. Paths between Wave 1 and Wave 3 variables are also not shown, although they were included in the path model. \*\*\* $p \leq .001$ , \*\* $p \leq .01$ , \* $p \leq .05$ .

our sample. The two groups did not differ on rates of major depression or levels of parenting stress.

### Path Modeling Results

The hypothesized path model depicted in Figure 1 fit the data well (model fit:  $\chi^2(10) = 13.48$ ,  $p = .198$ ; CFI = .995; RMSEA = .020). Resulting standardized coefficients for

direct effects of all predictors and control variables on maternal physical aggression are presented in Figure 2. Table 2 presents raw and standardized coefficients, along with standard errors and percentage of variance explained in outcomes, for direct effects of all predictors on maternal aggression, and direct effects of acculturation indicators and controls on psychosocial risk factors; standard errors were adjusted for clustering by city.



**Table 2.** Direct Effects of Predictors on Hispanic Mothers' CTSPC Physical Aggression and Psychosocial Risk Factors

|  | B     | (SE) | $\beta$ | p   |
|--|-------|------|---------|-----|
| <b>Maternal physical aggression regressed on</b>             |       |      |         |     |
| Acculturation Indicators                                     |       |      |         |     |
| Nativity (foreign-born) <sup>a</sup>                         | -0.21 | 0.09 | -0.08   | **  |
| Religious attendance   | 0.03  | 0.05 | 0.03    |     |
| Traditional gender norms                                     | 0.05  | 0.14 | 0.02    |     |
| Psychosocial Factors   |       |      |         |     |
| Parenting stress   | 0.22  | 0.08 | 0.13    | **  |
| Major depression   | -0.06 | 0.10 | -0.05   |     |
| Heavy alcohol use  | 0.21  | 0.10 | 0.19    | *   |
| Intimate partner aggression                                  | 0.08  | 0.07 | 0.07    |     |
| Child factors  |       |      |         |     |
| Child aggressive behavior                                    | 0.87  | 0.13 | 0.25    | *** |
| Child anxious/depressed                                      | -0.09 | 0.15 | -0.02   |     |
| Child withdrawn  | -0.33 | 0.14 | -0.07   | *   |
| Child gender (boy)   | 0.09  | 0.12 | 0.04    |     |
| SES and demographic factors                                  |       |      |         |     |
| Household income <sup>b</sup>                                | -0.01 | 0.03 | -0.01   |     |
| Education  | 0.15  | 0.08 | 0.12    | *   |
| Relationship status <sup>c</sup>                             | 0.01  | 0.06 | 0.01    |     |
| Age at child's birth   | -0.02 | 0.01 | -0.10   | *   |
| % Variance explained in outcome                              | 17.3  |      |         |     |
| <b>Maternal alcohol use regressed on:</b>                    |       |      |         |     |
| Acculturation Indicators                                     |       |      |         |     |
| Nativity (foreign-born)                                      | -0.21 | 0.15 | -0.09   |     |
| Religious attendance   | -0.09 | 0.05 | -0.10   |     |
| Traditional gender norms                                     | -0.43 | 0.13 | -0.21   | *** |
| SES and demographic factors                                  |       |      |         |     |
| Household income <sup>b</sup>                                | 0.09  | 0.03 | 0.17    | **  |
| Education  | 0.03  | 0.08 | 0.03    |     |
| Relationship status <sup>c</sup>                             | 0.15  | 0.07 | 0.13    | *   |
| Age at child's birth   | -0.05 | 0.01 | -0.26   | *** |
| % Variance explained in outcome                              | 26.1  |      |         |     |
| <b>Maternal Parenting stress regressed on</b>                |       |      |         |     |
| Acculturation indicators                                     |       |      |         |     |
| Nativity (foreign-born)                                      | -0.06 | 0.08 | -0.04   |     |
| Religious attendance   | -0.05 | 0.02 | 0.09    | *   |
| Traditional gender norms                                     | 0.11  | 0.04 | 0.09    | **  |
| SES and demographic factors                                  |       |      |         |     |
| Household income <sup>b</sup>                                | -0.02 | 0.01 | -0.05   | *   |
| Education  | -0.08 | 0.06 | -0.12   |     |
| Relationship status <sup>c</sup>                             | 0.08  | 0.04 | 0.12    | *   |
| Age at child's birth   | 0.01  | 0.01 | 0.08    | *   |
| % variance explained in outcome                              | 5.6   |      |         |     |
| <b>Maternal Depression regressed on</b>                      |       |      |         |     |
| Acculturation indicators                                     |       |      |         |     |
| Nativity (foreign-born)                                      | -0.08 | 0.11 | -0.04   |     |
| Religious attendance   | -0.08 | 0.05 | -0.11   |     |
| Traditional gender norms                                     | -0.09 | 0.09 | -0.05   |     |
| SES and demographic factors                                  |       |      |         |     |
| Household income <sup>b</sup>                                | -0.06 | 0.01 | -0.12   | *** |
| Education  | -0.15 | 0.08 | -0.00   |     |
| Relationship status <sup>c</sup>                             | 0.07  | 0.04 | 0.07    |     |
| Age at child's birth   | 0.01  | 0.01 | 0.03    |     |
| % variance explained in outcome                              | 4.4   |      |         |     |
| <b>Intimate partner aggression and violence regressed on</b> |       |      |         |     |
| Acculturation Indicators                                     |       |      |         |     |

(continued)

**Table 2. (continued)**

|                                  | B     | (SE) | $\beta$ | p  |
|----------------------------------|-------|------|---------|----|
| Nativity (foreign-born)          | 0.07  | 0.09 | 0.07    |    |
| Religious attendance             | -0.03 | 0.05 | -0.03   |    |
| Traditional gender norms         | -0.05 | 0.14 | -0.00   |    |
| SES and demographic factors      |       |      |         |    |
| Household income <sup>b</sup>    | -0.01 | 0.04 | -0.02   |    |
| Education                        | -0.03 | 0.07 | -0.03   |    |
| Relationship status <sup>c</sup> | -0.17 | 0.06 | -0.18   | *  |
| Age at child's birth             | 0.01  | 0.00 | 0.06    | ** |
| % Variance explained in outcome  | 4.8   |      |         |    |

Note. <sup>a</sup>Direct effects are based on the model estimation with standard errors adjusted for clustering by city. <sup>b</sup>Household income was square-root transformed for analyses. <sup>c</sup>Lower values for Relationship status indicate marriage to child's father, while higher values reflect low contact with father. \*\*\* $p \leq .001$ , \*\* $p \leq .01$ , \* $p \leq .05$ .

*Direct effects of acculturation indicators on maternal aggression.*

Path model results show that after considering religious attendance, endorsement of traditional gender norms, maternal psychosocial risk factors, and controlling for sociodemographic variables and child behavior, nativity status is a significant predictor of maternal physical aggression such that foreign-born Latinas are less likely to report using physical aggression toward their 5-year-old children. Results from the same path model show that religious attendance and endorsement of traditional gender norms, when considered alongside nativity, are not significant predictors of maternal aggression. To examine whether years spent in the United States was a significant predictor of maternal aggression, we estimated the same path model for foreign-born mothers only, but replaced nativity with the number of years in the United States. Those results showed that among foreign-born mothers, the number of years in the United States was not predictive of maternal aggression ( $B = 0.00$ ,  $SE = 0.01$ ,  $\beta = .02$ ,  $p = .823$ ). These findings suggest that nativity represents a unique component of acculturation in relation to maternal use of physical aggression.

*Other predictors of maternal aggression.* Among the four maternal psychosocial risk factors considered, parenting stress and heavy alcohol use were significantly associated with maternal aggression, while maternal depression and intimate partner aggression and violence were not significantly related to maternal aggression in our path model. Among the eight control variables, child aggressive behavior and maternal education were associated with greater maternal aggression, while child being withdrawn and maternal age were associated with lower maternal aggression.

*Direct effects of acculturation indicators on maternal psychosocial risk factors.* Endorsement of traditional gender norms was strongly associated with mothers' lower alcohol use. Greater religious attendance was associated with lower parenting stress, while endorsement of traditional gender norms was associated higher parenting stress. Nativity,

religious attendance, and endorsement of traditional gender norms were not significant predictors of maternal depression or intimate partner aggression and violence. Interestingly, nativity was not associated with any of the four psychosocial risk factors in our model; among foreign-born mothers, years lived in the United States was similarly not associated with any of the four psychosocial risk factors.

#### *Indirect effects of acculturation indicators on maternal aggression.*

To assess whether significant relationships between acculturation indicators, psychosocial risk factors, and maternal aggression described above represent mediation, we calculated indirect effects of acculturation indicators on maternal aggression through each psychosocial risk factor. None of these specific indirect effects were found to be significant suggesting that none of the four psychosocial risk factors examined here serves as a mediator of the effects of acculturation on maternal aggression.

## Discussion

### *Nativity and Acculturation in Relation to Maternal Aggression*

A key finding in this study is that foreign birth acted as a strong protective factor in relation to Hispanic mothers' use of physical aggression. Specifically, after taking into account maternal psychosocial risk factors, child behaviors, and sociodemographic controls, foreign-born mothers were less likely than native-born Hispanic mothers to use physical aggression toward their 5-year-old children. This finding corroborates similar findings with other Hispanic samples (Berlin et al., 2009) and elaborates on earlier studies that examined effects of foreign birth among multiethnic samples (e.g., Lee et al., 2011; Taylor et al., 2009). It is probable that the overall lower levels of aggression among Hispanic mothers, discussed earlier, are in part due to the lower levels of aggression among foreign-born Hispanic mothers. Thus, it is important that future studies of parental aggression take into account parental nativity status.

In the current study, we also examined whether other indicators of acculturation that tap into different aspects of this complex multidimensional process (Phinney & Flores, 2002) predict maternal aggression. Greater religious attendance was associated with lower parenting stress, while endorsement of traditional gender norms was associated with lower maternal alcohol use and higher parenting stress, both of which were significant predictors of aggression. However, religious attendance and endorsement of traditional gender norms did not significantly influence maternal aggression either directly or indirectly. Our findings expand the protective effects of religious attendance to parenting stress and confirm the protective effects of traditional gender norms with regard to alcohol consumption for women (Kulis et al., 2008). However, our results did not confirm earlier findings with multiethnic samples showing protective effects of religiosity with regard to

depression (Smith et al., 2003) and alcohol consumption (Michalak et al., 2007) perhaps due to the limited nature of the depression and alcohol consumption measures available in the FFCWS, or perhaps due to the different effects of religious attendance on these factors among Latinas.

When we examined years lived in the United States as a predictor of maternal psychosocial risk factors and physical aggression among foreign-born Latinas, we did not find any significant effects. This suggests that nativity related differences in maternal use of physical aggression are linked to either contexts of mothers' early socialization or selection related to migrant health (Franzini, Ribble, & Keddie, 2001) rather than short-term contact with U.S. culture. It is possible that parenting norms with regard to use of aggression in mothers' countries of origin may differ from parenting practices in the United States. Parenting practices and conceptions of childhood are shaped in large part by parents' own childhood experiences (Lareau, 2002); for foreign-born parents, those formative experiences occurred in a different sociocultural context. Sampson (2008) argues that immigrants, and specifically Latinos, bring with them less violent cultural norms to the United States. Thus, it is possible that foreign-born Hispanic mothers subscribe to different norms with regard to use of aggression in parenting than native-born Latinas and U.S.-born mothers in general. It is also possible that these norms are limited to parenting of younger children; there is evidence that Hispanic mothers' conceptions of children's capacities shift around age 6 such that Latinas are more nurturing with younger children, than Anglo mothers, but shift to use of greater control and harshness with older children (Halgunseth, Ispa, & Rudy, 2006). Further research is needed to understand the specific mechanisms that underlie lower use of aggression among foreign-born Hispanic mothers of young children.

### *Psychosocial Risk Factors Associated With Maternal Aggression*

Our results show that maternal heavy alcohol use and parenting stress were significant predictors of maternal physical aggression among Latinas. We did not find, however, that any of the four psychosocial risk factors associated with risk of child maltreatment—maternal alcohol use, depression, parenting stress, and intimate partner violence and aggression—mediated the effects of acculturation on maternal physical aggression. In our findings, as in other studies (e.g., Taylor et al., 2009), foreign-born Hispanic mothers experienced higher rates of intimate partner aggression and violence than native-born mothers; however, this association was not significant once sociodemographic factors were considered in analyses. Foreign-born mothers were less likely to engage in heavy alcohol consumption than U.S.-born Hispanic mothers, confirming previous findings (Vega et al., 1998); however, nativity was not a significant predictor of alcohol use once other study variables were considered. Instead, we found that endorsement of traditional gender norms was the more influential acculturation indicator with regard to alcohol use.

### Study Limitations and Future Research Directions

Similar to prior research (Berlin et al., 2009; Taylor et al., 2009), this study relied on maternal self-report, which may introduce reporting biases (e.g., underreporting of actual maternal aggression toward the child). Straus and colleagues argue that self-report of behaviors ranging in severity (from common parenting behaviors, such as spanking, to maltreating behaviors, such as shaking a child) produces a more reliable estimate of whether the child is actually *at risk* of child maltreatment than would be indicated by measures of maltreatment such as Child Protective Services (CPS) substantiation rates (Straus et al., 1998), which are themselves plagued by biases and misclassification problems (Runyan et al., 2005). Ideally, one would be able to compare maternal self-report with observations from another individual, potentially the child's father; or compare maternal reports of parenting aggression to CPS records. This was not possible in the current study.

Just as we know that there is a great deal of heterogeneity in parenting practices and other behaviors that present risk of child maltreatment among parents in the United States, it is reasonable to assume that there are also important variations in parenting practices among Hispanic immigrants arriving from different parts of Latin America, the Caribbean, and elsewhere. Unfortunately, even in this large sample, some of these subgroups were too small for independent analyses. In addition, given that all families were initially recruited from urban areas, a further limitation of this study is that results may not generalize to Hispanic mothers living in non-urban areas. Future studies may wish to consider differences in maternal aggression by country of origin and across rural, suburban, and urban settings.

Future research may also wish to utilize additional measures of acculturation than those employed in the current study, such as changes in general attitudes and behaviors, as well as core beliefs about family processes. Cultural values such as *familism*, or strong family ties and the primacy of family, and *respeto*, the valuing of harmonious personal relationships, may increase positive parenting interactions with children (Halgunseth et al., 2006). For example, familism has been linked to lower levels of child maltreatment in both Hispanic and White families (Coohey, 2001). Future studies may wish to examine how acculturation relates to changes in mothers' familism and respeto beliefs, and whether these beliefs may serve as protective mechanisms with regard to aggressive parenting behaviors.

### Implications for Policy and Practice

This study has a number of policy and practice implications. In general, Latino children do not appear to be at elevated risk of physical child maltreatment, and children in immigrant Hispanic families experience lower risk of physical abuse. These findings suggest that child welfare policies and training procedures that are intended to address the representation of minority

children in child welfare services must take into account empirical evidence regarding racial/ethnic and nativity status differences in risk factors, as well as differences in specific parenting practices that place children at risk of child maltreatment (Drake et al., 2011). While immigrant Hispanic families face socioeconomic risks that are similar to those faced by African Americans, they are less likely to be involved in child welfare services, suggesting that socioeconomic and parenting risks must be considered separately. The results of this study suggest that the lower levels of involvement of immigrant Hispanic families in child welfare can be explained in part by differences in parenting practices, such as maternal use of physical aggression, that place children at risk of maltreatment.

### Conclusions

Findings from this study suggest there are important protective factors, especially immigrant status, that may contribute to lower levels of aggression among Hispanic mothers. Our model controlled for socioeconomic factors that are confounded with immigrant status. Maternal heavy alcohol use and parenting stress were risk factors for maternal physical aggression, but did not mediate the effects of acculturation on maternal aggression. Policies and services aimed at Hispanic mothers should consider the protective effects of foreign birth alongside risk factors for maternal aggression. Future research may wish to examine links between different indicators of acculturation, psychosocial risk factors, and maternal aggression.

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### References

- Abidin, R. (1995). *Parent Stress Inventory* (3rd ed.). Odessa, FL: Psychological Assessments Resources.
- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA Preschool Forms and Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83-96.
- Berger, L. M. (2004). Income, family structure, and child maltreatment risk. *Children and Youth Services Review, 26*, 725-748.
- Berger, L. M. (2005). Income, family characteristics, and physical violence toward children. *Child Abuse & Neglect, 29*, 107-133.
- Berger, L. M., Paxson, C., & Waldfogel, J. (2009). Mothers, men, and child protective services involvement. *Child Maltreatment, 14*, 263-276.
- Berlin, L. J., Ispa, J. M., Fine, M. A., Malone, P. S., Brooks-Gunn, J., Brady-Smith, C., Ayoub, C., & Bai, Y. (2009). Correlates and consequences of spanking and verbal punishment for low-income

- White, African American, and Mexican American toddlers. *Child Development*, 80, 1403-1420.
- Berry, J. W. (2003). Conceptual approaches to acculturation. In K. M. Chun & P. Balls Organista (Eds.), *Acculturation: Advances in theory, measurement, and applied research*, (pp. 17-37). Washington, DC: American Psychological Association.
- Caetano, R., Ramisetty-Mikler, S., Caetano, P. A. V., & Harris, T. R. (2007). Acculturation stress, drinking, and intimate partner violence among Hispanic couples in the U.S. *Journal of Interpersonal Violence*, 22, 1431-1447.
- Charles, P., & Perreira, K. M. (2007). Intimate partner violence during pregnancy and 1-year post-partum. *Journal of Family Violence*, 22, 609-619.
- Chung, E. K., McCollum, K. F., Elo, I. T., Lee, H. J., & Culhane, J. F. (2004). Maternal depressive symptoms and infant health practices among low-income women. *Pediatrics*, 113, e523-e529.
- Cooper, C. E., McLanahan, S. S., Meadows, S. O., & Brooks-Gunn, J. (2009). Family structure transitions and maternal parenting stress. *Journal of Marriage and Family*, 71, 558-574.
- Cunradi, C. B. (2009). Intimate partner violence among Hispanic men and women: The role of drinking, neighborhood disorder, and acculturation-related factors. *Violence and Victims*, 24, 83-97.
- Dettlaff, A. J., Earner, I., & Phillips, S. D. (2009). Latino children of immigrants in the child welfare system: Prevalence, characteristics, and risk. *Children and Youth Services Review*, 31, 775-783.
- Drake, B., Jolley, J. M., Lanier, P., Fluke, J., Barth, R. P., & Jonson-Reid, M. (2011). Racial bias in child protection? A comparison of competing explanations using national data. *Pediatrics*, 127, 471-478.
- Ellison, C. G., Trinitapoli, J. A., Anderson, K. L., & Johnson, B. R. (2007). Race/ethnicity, religious involvement, and domestic violence. *Violence against Women*, 13, 1094-1112.
- Escobar, J. I., Nervi, C. H., & Gara, M. A. (2000). Immigration and mental health: Mexican Americans in the United States. *Harvard Review of Psychiatry*, 8, 64-72.
- Ferrari, A. M. (2002). The impact of culture upon child rearing practices and definitions of maltreatment. *Child Abuse & Neglect*, 26, 793-813.
- Franzini, L., Ribble, J. C., & Keddie, A. M. (2001). Understanding the Hispanic paradox. *Ethnicity & Disease*, 11, 496-518.
- Gallo, L. C., Penedo, F. J., Espinosa de los Monteros, K., & Arguelles, W. (2009). Resiliency in the face of disadvantage: Do Hispanic cultural characteristics protect health outcomes? *Journal of Personality*, 77, 1707-1746.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128, 539-579.
- Halgunseth, L. C., Ispa, J. M., & Rudy, D. (2006). Parental control in Latino families: An integrated review of the literature. *Child Development*, 77, 1282-1297.
- Hill, T. D., Burdette, A. M., Regnerus, M., & Angel, R. J. (2008). Religious involvement and attitudes toward parenting among low-income urban women. *Journal of Family Issues*, 29, 882-900.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Kessler, R. C., Andrews, G., Mroczek, D., Ustun, B., & Wittchen, H. U. (1998). The World Health Organization composite international diagnostic interview short-form (CIDI-SF). *International Journal of Methods in Psychiatric Research*, 7, 171-185.
- Klaassen, D. W., McDonald, M. J., & James, S. (2006). Advance in the study of religious and spiritual coping. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping*, (pp. 105-132). New York, NY: Springer.
- Kulis, S., Marsiglia, F. F., Lingard, E. C., Nieri, T., & Nagoshi, J. (2008). Gender identity and substance use among students in two high schools in Monterrey, Mexico. *Drug and Alcohol Dependence*, 95, 258-268.
- Kulis, S., Marsiglia, F. F., & Nagoshi, J. L. (2010). Gender roles, externalizing behaviors, and substance use among Mexican-American adolescents. *Journal of Social Work Practice in the Addictions*, 10, 283-307.
- Lareau, A. (2002). Invisible inequality: Social class and childrearing in Black and White families. *American Sociological Review*, 67, 747-776.
- Lee, B. J., & Goerge, R. M. (1999). Poverty, early childbearing, and child maltreatment: A multinomial analysis. *Children and Youth Services Review*, 21, 755-780.
- Lee, S. J., Perron, B. E., Taylor, C. A., & Guterman, N. B. (2011). Paternal psychosocial characteristics and corporal punishment of their 3-year-old children. *Journal of Interpersonal Violence*, 26, 71-87.
- Lloyd, S. (1996). Physical aggression, distress, and everyday marital interaction. In D. D. Cahn & S. A. Lloyd (Eds.), *Family violence from a communication perspective*, (pp. 177-198). Thousand Oaks, CA: Sage.
- Lown, E. A., & Vega, W. A. (2001). Prevalence and predictors of physical partner abuse among Mexican American women. *American Journal of Public Health*, 91, 441-445.
- Michalak, L., Trocki, K., & Bond, J. (2007). Religion and alcohol in the US national alcohol survey: How important is religion for abstinence and drinking? *Drug and Alcohol Dependence*, 87, 268-280.
- National Institute on Alcohol Abuse and Alcoholism (2005). *Helping patients who drink too much: A clinician's guide, updated 2005 edition*. Washington, D.C.: National Institutes of Health.
- Ondersma, S. J. (2002). Predictors of neglect within low-SES families: The importance of substance abuse. *American Journal of Orthopsychiatry*, 72, 383-391.
- Osborne, C., & Berger, L. M. (2009). Parental substance abuse and child well-being: A consideration of parents' gender and coresidence. *Journal of Family Issues*, 30, 341-370.
- Parra-Cardona, J. R., Cordova, D., Holtrop, K., Villarruel, F. A., & Wieling, E. (2008). Shared ancestry, evolving stories: Similar and contrasting life experiences described by foreign-born and U.S. born Latino parents. *Family Process*, 47, 157-172.
- Passel, J. S., & Cohn, D. (2008). *US population projections, 2005-2050*. Washington, D.C.: Pew Research Center.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.
- Phinney, J. S., & Flores, J. (2002). "Unpackaging" acculturation: Aspects of acculturation as predictors of traditional sex role attitudes. *Journal of Cross-Cultural Psychology*, 33, 320-331. doi:10.1177/0022022102033003007.

- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891.
- Raj, A., & Silverman, J. (2002). Violence against immigrant women. *Violence Against Women, 8*, 367.
- Reichman, N. E., Teitler, J. O., Garfinkel, I., & McLanahan, S. S. (2001). Fragile families: Sample and design. *Children and Youth Services Review, 32*, 303-326.
- Runyan, D. K., Cox, C. E., Dubowitz, H., Newton, R. R., Upadhyaya, M., Kotch, J. B., Leeb, R. T., Everson, M. D., & Knight, E. D. (2005). Describing maltreatment: Do child protective service reports and research definitions agree? *Child Abuse & Neglect, 29*, 461-477.
- Sampson, R. J. (2008). Rethinking crime and immigration. *Contexts, 7*(1), 28-33.
- Schwartz, S. J., Pantin, H., Sullivan, S., Prado, G., & Szapocznik, J. (2006). Nativity and years in the receiving culture as markers of acculturation in ethnic enclaves. *Journal Of Cross-cultural Psychology, 37*, 345-353.
- Schwartz, S. J., Unger, J. B., Zamboanga, B., & Szapocznik, J. (2010). Rethinking the concept of acculturation: Implications for theory and research. *American Psychologist, 65*, 237-251.
- Smith, T. B., McCullough, M. E., & Poll, J. (2003). Religiousness and depression: Evidence for a main effect and the moderating influence of stressful life events. *Psychological Bulletin, 129*, 614.
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The Revised Conflict Tactics Scale (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*, 283-316.
- Straus, M. A., Hamby, S. L., Finkelhor, D. W., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect, 22*, 249-270.
- Taylor, C. A., Guterman, N. B., Lee, S. J., & Rathouz, P. (2009). Intimate partner violence, maternal stress, nativity, and risk for maternal maltreatment of young children. *American Journal of Public Health, 99*, 175-183.
- U.S. Census Bureau. (2009). 2006-2008 American Community Survey 3-Year Estimates. Retrieved December 28, 2009, from <http://factfinder.census.gov>
- Vega, W. A., Alderete, E., Kolody, B., & Aguilar-Gaxiola, S. (1998). Illicit drug use among Mexicans and Mexican Americans in California: The effects of gender and acculturation. *Addiction, 93*, 1839-1850.
- Weiss, R. L., & Margolin, G. (1977). Assessment of marital conflict and accord. In A. R. Ciminero, K. D. Calhoun & H. E. Adams (Eds.), *Handbook of behavioral assessment*, (pp. 555-602). New York, NY: John Wiley.
- Windham, A., Rosenberg, L., Fuddy, L., McFarlane, E., Sia, C., & Duggan, A. (2004). Risk of mother-reported child abuse in the first 3 years of life. *Child Abuse & Neglect, 28*, 647.
- Zhai, F., & Gao, Q. (2009). Child maltreatment among Asian Americans: Characteristics and explanatory framework. *Child Maltreatment, 14*, 207-224.
- Zolotor, A. J., & Runyan, D. K. (2006). Social capital, family violence, and neglect. *Pediatrics, 117*, 1124-1131.