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**Understanding the Relationships between Diverse Family Structures and the Development
of Emotion Regulation of Mexican Origin Children: Population-Based Estimates**

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Abstract

Using a nationally representative sample of children in 2001 from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B), the study investigates the relationship between family structures – both nuclear and extended family structures – and child's emotional regulation for Mexican origin children. The study finds that the influences of family structures on children's emotion regulation across racial and ethnic groups differ. Specifically, for U.S. born children of U.S. born Mexican parents, residing in vertically extended family structures (i.e., with grandparents) is negatively associated with children's emotion regulation whereas residing in horizontally extended family structures (i.e., with aunt or uncle) is positively associated with children's emotion regulation. Empirical findings of this study indicate that designing group-specific policy for children's emotion regulation development would be especially helpful.

Understanding the Relationships between Diverse Family Structures and the Development of

Emotion Regulation of Mexican Origin Children: Population-Based Estimates

Since the implantation of the landmark Immigration Act of 1965, which removed the

quota system based on the country of origin established in 1924, the number of immigrants in the

United States has increased significantly. Such rapid increase in immigration over the last several

decades has contributed important demographic, socioeconomic and cultural changes in the

United States; and understanding immigrants and their children's incorporation into the

American society has important implications for both immigrants and natives in the United

States (Borjas, 1999). One important aspect of understanding immigration and immigrants'

adaptation in the United States concerns the welfare of children of immigrants.

Children's well-being is an important public policy issue which can have serious short-

and long- term implications at various levels— individual, family, community, and national.

Children's well-being is not only a concern for children themselves and their families, but also

for the interests of their community and nation. Children's well-being is important in that it can

have cumulative and lasting implications for individuals in their life course. In particular, there is

emerging evidence on the critical importance of development in early childhood as experience in

early childhood shapes future cognitive, social, emotional, and health outcomes (Shonkoff &

Phillips, 2000). In addition, children of immigrants are the fasted growing component of the

children population in the United States (Hernandez, 2004); and nearly one in four children

under the age of 5 in the United States are children of immigrants (Fortuny, Hernandez, &

Chaudry, 2010). However, despite the large proportion of immigrant children and their fast

growth rate, research investigating early childhood development of immigrant children is

understudied. For example, in a preliminary survey of the journal articles published since 1963

and complied in the Sociological Abstracts, there are only 365 entries on immigrant children

health and development. Yet within this small minority— less than 3 percent of the articles focus

on immigrant children's development. In fact, even of this limited literature, most scholars

predominately focus on birth outcomes only.

Despite increasingly more scholarly interest to investigate early childhood development

for children of immigrants in recent years (Crosnoe & Fuligni, 2012), one understudied area of

early childhood development of immigrant children is emotional regulation. Up to date, the

majority of studies on immigrant children's development have focused on self-regulation

outcomes explicitly related to school readiness (e.g., cognitive development including executive

function) (Morgan, Farkas, Hillemeier, & MacZuga, 2009) or behavioral outcomes (Turney &

Kao, 2009). Nonetheless, emotion regulation is the earliest form of self-regulation and can affect

the subsequent development of other self-regulation behaviors. Thus, understanding how

children of immigrants develop emotional regulation is imperative as it has important

implications for their life course.

The goal of this study is to investigate the relationships between family structures – both

nuclear and extended family structures – and child's emotional regulation for Mexican origin

children. Mexican origin children are chosen as a population of interest for several reasons. First,

due to the large number of Mexican immigrants and their high fertility (Jonsson & Rendall,

2004), Mexican origin children make up for nearly 15.2 percent of U.S. children population

under age of 5 (Ennis, Rois-Vargas, & N, 2011). Given that the Mexican origin population

makes up for only 7.3 percent of the total U.S. population in 2010, this relatively large

proportion of Mexican origin children among the total U.S. children population demonstrates the

importance of Mexican origin children. Second, Mexican origin children are more likely to

reside in two-parent households (i.e., both married and cohabitating parents) and in extended

family households compared to other racial and ethnic groups in the United States (Brandon,

2002; Landale, Thomas, & van Hook, 2011). In addition, Mexican families are thought to have

stronger family support and bond known as *familism* (Taylor, Larsen-Rife, Conger, & Widaman,

2012). While Mexican origin children have family factors that are often conceptualized as

protective factors, how these factors are associated with emotion regulation has yet to be

examined.

Emotion Regulation

Emotion regulation refers to an extrinsic and intrinsic process that emerges in early

infancy which is responsible for the monitoring, evaluation, and modifying of emotional reaction

(Thompson, 1994). Emotion regulation can be conceptualized as a process of modulating one's

emotion – both negative and positive emotions; and conscious and non-conscious (Gross &

Thompson, 2007). Emotion regulation is one of the earliest forms of self-regulation, and is a long

developmental process (Zelazo & Cunningham, 2007). Regulation of arousal starts from birth,

and the first year of child's life marks a critical period in which emotion regulation develops.

Thus, the development process of emotion regulation is one of the most important tasks of

childhood (National Research Council and Institue of Medicine, 2000).

Emotion regulation plays an important role in the conceptualization of self-regulation.

Self-regulation refers to "the ability to comply with a request, to initiate and cease activities

according to situational demands, to modulate the intensity, frequency, and duration of verbal

and motor acts in social and educational settings, to postpone acting upon a desired object or

goal, and to generate socially approved behavior in the absence of external monitors" (Kopp,

1989: p. 199). According to this definition of self-regulation, emotion regulation precedes the

development of self-regulation, and emotion regulation can interfere with self-regulation. Furthermore, emotion regulation plays an important role in the conceptualization of self-regulation as it is closely intertwined with other regulatory processes including executive functions (Carlson & Wang, 2007; Zelazo & Cunningham, 2007). For example, recent studies have argued that emotion regulation can be isomorphic with executive function when the primary goal is to regulate one's emotion; and emotion regulation is a necessary component of executive function even when the primary goal is to solve a problem (Carlson & Wang, 2007; Zelazo & Cunningham, 2007). Although these recent studies focus on only one aspect of emotion regulation (i.e., voluntary emotion regulation), they iterate the critical role emotion regulation plays in the overall early childhood development.

From the life course perspective, emotion regulation's importance is heightened. That is, emotion regulation has significant lasting consequences across individuals' life span. Emotion regulation is also important in that it is associated with various later outcomes including childhood social competence (Dollar & Stifter, 2012), and school readiness (Morgan et al., 2009). In addition, deficits in emotion regulation is also associated with various internalizing and externalizing psychopathology (Casey, 1996), aggression and violent behaviors (Roberton, Daffern, & Bucks, 2012), and other mental disorders and psychiatric symptoms (Bradley et al., 2011).

Emotion Regulation and Family Context

The development of emotion regulation occurs as a function of individuals' biological factors and contextual factors (Jahromi, Putnam, & Stifter, 2004). In the past decade, there have been significant advances in understanding the biological bases of children's development of emotion regulation. For example, previous studies have investigated various factors including

cardiac vagal tone (Beauchaine, Gatzke-Kopp, & Mead, 2007), and hypothalamic-pituitary-adrenal functioning (Blair, Granger, & Razza, 2005). Despite these advances in the understanding of biological factors that influence children's emotion regulation, scholars continue to emphasize the importance of family context in emotion regulation (Fosco & Grych, 2013; Morris, Silk, Steinberg, Myers, & Robinson, 2007; Shaffer, Suveg, Thomassin, & Bradbury, 2012; Thompson & Meyer, 2007).

Family context is particularly important for children's emotion regulation as it constitutes individuals' earliest and most foundational context. Individual family members are interdependent and influence one another within a complex and integrated system of family (i.e., the family systems perspectives) (Cox & Paley, 2003), and infants' survival and their biosocial development are inherently linked to their familial influences. Family contexts have "ubiquitous and multifaceted influences" on emotion development through multiple mechanisms (Thompson & Meyer, 2007). Specifically, parents can shape children's family context in both direct and indirect ways. First, parents can shape children's family context by the quality of parent-child interaction. Parental behaviors play a key role in infants' development of emotion regulation through several, including direct, parental interventions such as soothing, eliciting and maintaining positive emotion, and distracting (Jahromi et al., 2004). Parents also shape children's family context through indirect mechanisms. For example, parents provide the contextual norms for children by evaluating children's feelings and creating the emotional climate of family life. That is, parents can model emotion regulation to children by either "emotion-coaching" or "emotion-dismissing" during parent-child emotion conversations (Thompson & Meyer, 2007).

Although previous studies have investigated the importance of family context on children's development of emotion regulation by focusing on parental behaviors, they have not focused on the larger family context such as family structure as a potential factor. While more proximal measures like parent-child interaction and parenting are important factors for understanding children's development of emotion regulation, it is also important to investigate the larger family context that may influence these proximal factors. That is, a more broad family context like family structure can affect various proximal factors (e.g., family climate, maternal warmth and sensitivity, interpersonal conflict) (Fosco & Grych, 2013); and these proximal factors can in turn affect children's development of emotion regulation. While previous studies have recognized the importance of family structure by incorporating specific family structures (e.g., single parent versus two parents) as covariates, they have ignored the complexities of family structure. That is, in addition to focusing on nuclear family structure, studies should also investigate the potential role of extended family structure in family processes and children's outcomes.

Mexican Origin Children and Family Context

As discussed earlier, Mexican origin children are an important population of interest for the future growth and well-being of the U.S. population. In addition, understanding the relationship between family structure and children's emotion regulation is particularly important for Mexican origin children for the following reasons. First, Mexican origin children reside in unique family structures compared to other racial and ethnic groups in the United States. That is, Mexican origin children are more likely to reside in two-parent households (i.e., both married and cohabiting parents) and in extended family households compared to other racial and ethnic groups in the United States (Brandon, 2002; Landale et al., 2011). While residing in two-parent

household is considered as a protective factor for children's development in previous studies (Amato & Keith, 1991), studies have not investigated the influence of extended family structures on children's development. Extended family structures may positively influence children's emotion regulation if extended family members provide additional support and resources to the parent-child dyad. On the other hand, extended family structures may have negative influence children's emotion regulation if extended family members deplete parental resources. As there is increasing heterogeneity of family structure within the Mexican origin population, how family structure is associated with children's development of emotion regulation is imperative.

Secondly, Mexican origin children have different cultural backgrounds which is an important factor for the preschoolers' acquisition of self-regulation and emotion regulation (Boyer, 2012a, 2012b; Mesquita & Albert, 2007). Culture constitutes individuals' reality through systems of practices and meanings, and it can affect individuals' emotion regulation through several mechanisms including situation selection, situation modification, attentional deployment, appraisal regulation, and cultural regulation of behaviors (Mesquita & Albert, 2007). One specific cultural background that may influence Mexican origin children's development of emotion regulation is the concept of *familism* (Taylor et al., 2012). Familism refers to "a strong identification of individuals with their family" (Taylor et al., 2012: p. 313) in which individuals within the family have a strong collectivist orientation through family closeness and mutual support (Cauce & Domenech Rodriguez, 2002). Despite the disadvantageous socioeconomic profile of Mexican origin families and children, advantageous outcomes of Mexican origin children are often attributed to familism where children's disadvantageous environment is compensated by strong family.

This current study investigates the relationships between family structures – both nuclear and extended family structures – and child's emotional regulation for Mexican origin children. This study moves beyond the typical approach to focus on the non-Hispanic white and non-Hispanic black populations to better understand Mexican origin children's emotion regulation. In addition, following the family systems perspective which emphasizes the importance of examining family as a broad concept (Cox & Paley, 2003); it considers the family structure as a broad factor that can influence both proximal factors and children's emotion regulation rather than focusing on proximal factors like the parent-child dyad. As the number of Mexican origin children is rapidly increasing, and Mexican origin children are increasingly living in complex family circumstances, how various family structures are associated with children's emotion regulation will inform public policy to better target the population of interests within this heterogeneous population.

Hypotheses

The purpose of this current study is to examine the relationship between family structures – both nuclear and extended family structures – and child's emotional regulation. A central question is whether, and how, differences in children's family structure shortly after their births affect children's emotion-regulation; and, whether, and how, parent' sensitivity moderate this relationship. Specifically, the following hypotheses are tested: (H1) Nuclear structure characteristics are associated with children's emotional regulation in ways in which children have better emotional regulation in a married family structure compared to cohabitating or single family structures; (H2) extended structure characteristics are associated with children's emotional regulation in ways in which children have better emotional regulation in a non-extended family structure compared to other extended family structures; and (H3) the

relationships between family structures – both nuclear and extended family structures – and child's emotional regulation are moderated by parental sensitivity towards children. If parents have high sensitivity, then it will facilitate children's emotional regulation. On the other hand, if parents have low sensitivity, then it will exacerbate children's emotional regulation.

Data and Methods

Data

The Early Childhood Longitudinal Study – Birth Cohort (ECLS-B) is a nationally representative, longitudinal cohort study of approximately 14,000 U.S. children born in 2001, and children are followed from birth through kindergarten entry (i.e., ages one to four). This study is designed to examine child development, school readiness, and early school experience of children in the United States. This cohort is sampled from birth certificate records, and it oversampled minority groups, low birthweight outcomes (e.g., low birthweight (1,500-2,500 grams) and very low birthweight (less than 1,500 grams)), and twins. This study utilized the first wave of the ECLS-B in which the parents were surveyed when their children were about 9 months old (2001-2002). All sample sizes for the ECLS-B have been rounded to the nearest 50, as required by the confidentiality agreement for the use of restricted data. More information on the ECLS-B is available from the National Center for Education Statistics (NCES) at the ECLS website (http://nces.ed.gov/ecls/birth.asp).

The sample is restricted to include Mexican-origin children, defined as those classified as Mexican or who have a father or mother classified as Mexican in the survey. For cases with incomplete survey data on ethnicity, information from the child's birth certificate was used identify Mexican-origin children. There are approximately 700 U.S.-born Mexican children of immigrants, and 500 U.S.-born Mexican children of U.S.-born parents. In addition, non-

Hispanic white and non-Hispanic black children are included in the sample as the comparison groups. There are approximately, 3,800 non-Hispanic white children, and 1,300 non-Hispanic black children.

Measures

The dependent variable (i.e., children's emotional regulation) and the key independent variable (i.e., parental sensitivity measured as parent's NCAT) are measured by the Nursing Child Assessment Teaching Scale (NCATS). The NCATS is part of a larger clinical battery known as the Nursing Child Assessment Satellite Training (NCAST) (Barnard, 1978), and the NCATS are composed of two subsections – A Total Parent score and a Total Child score. The NCATS is not a standard measure for assessing child's emotion regulation like arm restraint (Stifter & Fox, 1990) and disappointment task (Cole, 1986), but it has several advantages. First, the NCATS has been used in other large sample studies like the Early Head Start Research and Evaluation Project (Love et al., 2005) which makes the comparison across different data sets possible. Second, it moves beyond the conventional measure that assesses child's emotional regulation to focus on the parent-child interaction to account for child's parental context (Andreassen & West, 2007).

Parents are asked to choose an activity that the child cannot perform yet then teach the child the activity. The interaction between parent and child are videotaped and coded later. The coders review the videotaped parent-child dyad interaction, and determine whether participants exhibited any of 73 different behaviors (yes or no). A Total Parent score is created by adding any of 50 parent behaviors (yes = 1, no = 0). If parents perform a behavior, then the item is coded as "yes", and then a total score is created by summing the total number of yes items. Higher scores on the Total Parent score indicate greater sensitivity and responsiveness to their child. A Total

Child score is created by adding any of the 23 child behaviors (yes = 1, no = 0). Higher scores on the Total Child score indicate child's emotion regulation which reflects the infant's clarity of cues and their responsiveness to caregiver cues.

Several demographic characteristics are included in the models as covariates. These include child's age, child's sex, maternal age, maternal education, maternal work status, and poverty status. Child's age is a continuous variable which measures child's age in months. Child's sex is a dichotomous variable in which males are coded as 1. A series of dummy variables are created for maternal education: Less than high school (reference), high school, and beyond high school. Maternal work status – whether mother was employed – is coded as 1 if a mother was employed full-time at the time of data collection and is coded as 0 if mother was employed part-time or not employed at all at the time of data collection. The poverty variable is a dichotomous variable that indicates whether child's household income was below the poverty level. If children's household income was below the poverty level, then it was coded as 1. Two types of family structure characteristics are included as independent variables. The first type of family structure characteristic is parental union status. Three dummy variables are created for single, cohabitation, and married. The second type of family structure characteristic is extension type. Four dummy variables are created: none, vertically extended, horizontally extended, and both extension.

Approximately less than 2 percent of selected variables contain missing values. To address the issue of missing data, five data sets are imputed to replicate the error structure to make optimal use of non-missing data compared to list-wise deletion, and to generate plausible values for missing data (Johnson & Young, 2011; Young & Johnson, 2013). The five imputed data sets were then analyzed with standard complete-data methods and results were combined to

yield estimates, standard errors, and p-values that incorporate uncertainty about missing data using *MI IMPUTE* and *MODELEFFECTS* commands in SAS. The sample designs of the ECLS-B require that the data be weighted to account for differential probabilities of sampling and attrition, and to generate the correct parameter estimate. Thus, all analyses are based on weighted data, with weights adjusted to return the total size of each sample to its unweighted sample size.

Analytic Strategies

First, differences in children's family structure shortly after their birth across groups in separate measure of nuclear and extended family structure are examined. These differences in children's family structure signify differences in children's living arrangements and family environments. These descriptive analyses are followed by a multivariate analysis of the family structures – both nuclear and extended family structures. A central question is whether and how differences in children's family structure shortly after their births affect children's emotion-regulation, and whether and how parent' sensitivity moderate this relationship. To address this question, a series of logistic regression models are estimated for specific nuclear and extended family structures, using the imputed data.

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Results

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Descriptive Statistics

Table 1 presents the prevalence of nuclear and extended family structures across different racial and ethnic groups at 9 months. Consistent with the previous studies, the majority of Mexican origin children reside in two-parent nuclear families. Specifically, 88.58 percent of U.S. born children of Mexican immigrant parents and 78.1 percent of U.S. born children of U.S. born Mexican parents live in two-parent nuclear families. However, nearly twice as many U.S. born

children of Mexican immigrants are living with two cohabitating parents compared to U.S. born

children of U.S. born Mexican parents (i.e., 21.29 percent versus 11.79 percent). Even when

compared to other racial groups, U.S. born children of Mexican immigrants have the highest

prevalence of living in a two-cohabitating parent family structure. This finding is consistent with

the literature that cohabitation is more prevalent and accepted as a substitute for legal marriage

among foreign-born Mexican women (Choi & Seltzer, 2011). On the other hand, U.S. born

children of Mexican immigrants are half as likely to live in a single parent nuclear family

structure compared to U.S. born children of U.S. born Mexican parents (i.e., 11.42 percent versus

21.9 percent). In other words, the prevalence of U.S. born children of Mexican immigrants living

in a single parent family structure is similar to non-Hispanic white children. Such stark

difference in the prevalence of children living in single parent family structure between U.S.

born children of Mexican immigrants and U.S. born children of U.S. born Mexican parents is

consistent with the existing literature (Brown, Hook, & Glick, 2008).

　　　　In terms of extended family structure, U.S. born children of Mexican immigrants are less

likely to reside in a nuclear family structure compared to U.S. born children of U.S. born

Mexican parents. U.S. born children of Mexican immigrants are more likely to live in

horizontally extended families (e.g., aunts and uncles in the households). On the other hand, U.S.

born children of Mexican immigrants are less likely to live in vertically extended families (i.e.,

grandparents present in the household). Such patterns echo the literature that recent immigrants

tend to reside with their friends or cousins when they first arrive – creating horizontally extended

families from children's perspective.

　　　　The descriptive statistics for each of the measures included in the analysis are presented

in Table 2. As shown, U.S. born children of Mexican immigrants have the lowest child NCAT

and lowest parents' sensitivity compared to other racial and ethnic groups. Mexican origin mothers tend to be younger compared to non-Hispanic mothers. Foreign-born Mexican mothers have the lowest educational attainment where nearly 49 percent of mothers have less than high school education. On the other hand, U.S.-born Mexican origin mothers' educational attainment is similar to non-Hispanic black mothers. Foreign-born Mexican mothers are less likely to work outside of home compared to others. Lastly, U.S. born children of Mexican immigrants are much more likely to live in poverty (e.g., 43 percent) compared to U.S. born children of U.S. born Mexican parents (e.g., 34 percent).

Multivariate Results

The results of the multivariate regression models predicting children's emotion regulation are displayed in Table 2. The coefficients are estimated for the race-specific models. The results show that there are significant sex differences in emotion regulation for male children for U.S. born children of U.S. born Mexican parents and non-Hispanic black. For male children of U.S. born Mexican parents, they are nearly half as likely to exhibit emotion regulating behaviors compared to their female counterparts. Both children's age (specific in months) and maternal age have no significant association with children's emotion regulation. Maternal education appears to be an important factor for U.S. born children of U.S. born Mexican parents and non-Hispanic white children. The association of maternal education is especially notable for U.S. born children of U.S. born Mexican parents in which higher maternal education is positively associated with an increase in children's emotion regulation. Specifically, having mothers that completed high school level of education is associated nearly 59 percent more likelihood to exhibit better emotion regulation. Maternal work status and poverty have no statistical association with children's emotion regulation. However, it is notable that living in poverty status is only

negatively associated with children's emotion regulation for U.S. born children of U.S. born

Mexican parents.

As hypothesized, parental union status (i.e., nuclear family structure) is associated with

children's emotional regulation in ways in which children have better emotional regulation in

married family structure compared to cohabitating or single family structures. This pattern is

especially notable for U.S. born children of Mexican immigrant parents and non-Hispanic black

children. For U.S. born children of Mexican immigrant parents, being married is associated with

a 53 percent increase in children's better emotion regulation. Furthermore, extended structure

characteristics are associated with children's emotional regulation in ways in which children

have better emotional regulation in non-extended family structure compared to other extended

family structures. For U.S. born children of Mexican immigrant parents and non-Hispanic black

children, residing in vertically extended family households with their grandparents are negatively

associated with children's emotion regulation. For U.S. born children of Mexican immigrant

parents, residing in horizontally extended family is positively associated with children's emotion

regulation.

The relationships between family structures – both nuclear and extended family

structures – and children's emotional regulation are moderated by parental sensitivity towards

children. That is, when parents have high sensitivity, children's emotional regulation is

facilitated. For U.S. born children of Mexican immigrant parents and non-Hispanic black

children, the relationships between family structures and children's emotion regulation are

completely mediated by parent's sensitivity. In other words, when parents' sensitivity is

controlled for in the model, statistical association between family structures and children's

emotion regulation disappears. This signifies that family structures are important factors for emotion regulation to the extent in which family structures influence parents' sensitivity.

Discussion and Conclusion

With the rapid increase in immigration since 1965, successful incorporation of immigrants into U.S. society has several implications for the U.S. population. Of the immigrant population, immigrant children especially constitute a large proportion of the U.S. children population (Hernandez, 2004); and, well-being and developmental trajectories of immigrant children are critical issues. Thus, understanding factors influencing the development of immigrant children is imperative. The current study investigates the association between family structures – both nuclear and extended family structures – and children's emotion regulation. Children's emotion regulation is particularly important as it is one of the earliest forms of self-regulation, and it affects multiple dimensions of individuals' lives across their life span (Kopp, 1989). It expands the previous literature by moving beyond the typical approach that mainly emphasized the proximal factors like parental behaviors to focus on the broad conceptualization of family. In addition, it focuses on the development of emotion regulation for Mexican origin children, a racial and ethnic minority group that was often overlooked in previous studies.

The hypotheses of this current study are revisited based on the findings in the previous section. The first hypothesis states that married family structure is associated with better emotion regulation compared to cohabitating or single family structures, and it is supported by the findings. While children's emotion regulation is positively associated with a married nuclear family structure, it is not statistically significantly associated with other types of nuclear family structures. The second hypothesis states that extended structure characteristics are associated with children's emotional regulation in ways in which children have better emotional regulation

in a non-extended family structure compared to other extended family structures. This hypothesis is also supported by the findings. However, for U.S. born children of Mexican immigrant parents, residing in a horizontally extended family structure is most positively associated with children's emotion regulation. Finally, the third hypothesis states that the relationships between family structures – both nuclear and extended family structures – and child's emotional regulation are moderated by parental sensitivity towards children. As hypothesized, when parents have high sensitivity, it facilitated children's emotion regulation; whereas when parents have low sensitivity, it exacerbated children's emotion regulation.

Although understanding the specific mechanisms by which family structures are differentially associated with children's emotion regulation across racial and ethnic groups is beyond the scope of this study, but there are several potential explanations. First, the findings indicate that residing in vertically extended family households with their grandparents are negatively associated with children's emotion regulation for U.S. born children of Mexican immigrant parents and non-Hispanic black children. Living in vertically extended family households may create additional psychological stresses for parents which can, in turn, influence parental behaviors. In addition, parents may have to spend their energy and resources to take care of grandparents; and it could compromise the time and resources allocated to children. Second, the study has found that residing in horizontally extended families is positively associated with children's emotion regulation for U.S. born children of Mexican immigrant parents. This may be due to increased support and resources from other family members. For example, other members of the family (e.g., aunt and uncle) may help out with other household chores; and parents may have more time available to allocate to their children. Also, additional members in the extended family can financially contribute to the family which can lower parents' stress. Lastly, the study

has found that the relationships between family structures and children's emotion regulation are completely mediated by parent's sensitivity. As mentioned earlier, this signifies that family structures are important factors for emotion regulation to the extent in which family structures influence parents' sensitivity.

While this study contributes to understanding the influences of family structures on children's emotion regulation across racial and ethnic groups, it has several limitations. First, the current study is cross-sectional capturing family structures and children's emotion regulation at one point in time, so it is not possible to make any causal inferences about the effects of family structures on children's emotion regulation development across time. Future studies should incorporate how family transition between two time points may be important for children's emotion regulation beyond family structures. Second, the current study only investigates one moderating/mediating variable (i.e., parental sensitivity). Future studies should investigate how other proximate family factors may moderate or mediate the relationships between family structure and children's emotion regulation. For example, other characteristics of family environments (e.g., emotional climate of the family, parent-child attachment, parenting style) and parents (e.g., parental conflict, depression) may moderate or mediate the relationships between family structure and children's emotion regulation. Third, the current study utilizes by the Nursing Child Assessment Teaching Scale (NCATS) to measure child's emotion regulation. Although this measure has been utilized in other large scale data (e.g., the Early Head Start Research and Evaluation Project), future studies should investigate whether traditional measures of children's emotion regulation like arm restraint (Stifter & Fox, 1990) and disappointment task (Cole, 1986) yield different results.

Despite these limitations, these findings have important implications for both policymaking and future research. First, the differential associations of family structures and children's emotion regulation for Mexican origin children suggest that public policy aiming to facilitate the development of emotion regulation may be more efficient and effective when strategies specific to racial/ethnic groups and nativity are developed and implemented. Second, future research should aim to investigate the specific mechanisms that explain why different family structures affect children's emotion regulation differently for Mexican origin children. Specifically, future research should investigate the mechanisms by which specific family structures have deleterious effects on emotion regulation of U.S.-born children of Mexican immigrant parents. This is imperative given the changing racial and ethnic landscape in the United States, and there is some evidence that subsequent generations assimilate to the negative aspects of the majority group (Portes & Zhou, 1993). Understanding the specific mechanisms by which family structures affect children's emotion regulation will help to provide more comprehensive understanding of children's development of emotion regulation across different racial and ethnic groups in the United States.

In sum, as mentioned earlier, children's development of emotion regulation can have significant and lasting implications for individuals across their life span, and public policy to promote healthy child development reflects the importance (National Research Council and Institue of Medicine, 2000). In order to better design public policy to target sub-children population across race, class, gender, and nativity that may be at developmental risk, it is important to identify the determinants and specific mechanisms. This study demonstrates that specific family structure is important for Mexican origin children's emotion regulation, and how specific family structure may have differential influence on children's emotion regulation across

racial and ethnic groups. Empirical findings of this study indicate that designing group-specific

policy for children's emotion regulation development would be especially helpful.

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Table 1. Prevalence of Nuclear and Extended Family Structures at Age 0-1 across Racial and Ethnic Groups.

	Non-Hispanic White	Non-Hispanic Black	Mexican	
			U.S. Born Children of Immigrant Parents	U.S. Born Children of U.S. Born Parents
	(N=3,800)[1]	(N=1,300)[1]	(N=700)[1]	(N=500)[1]
Nuclear Family Structure				
Two Married Parents	79.95	28.02	67.29	66.31
Two Cohabiting Parents	9.52	13.44	21.29	11.79
Single Parent	10.53	58.53	11.42	21.9
Extended Family Structure				
Nuclear	88.33	67.92	73.74	82.06
Vertically extended	6.05	10.21	4.86	7.76
Horizontally extended	1.56	6.74	14.13	2.74
Both types of extension	4.06	15.13	7.27	7.44

[1]Unweighted N. Numbers for children in the United States rounded to the nearest 50 to comply with ECLS-B requirements.
 Data Sources: Early Childhood Longitudinal Program, Birth Cohort (ECLS-B).

Table 2. Descriptive Statistics (weighted means/percentages) of the Sample.

| | NH White | | NH Black | | Mexican | | | |
| | | | | | U.S. Born Child, Immigrant Parents | | U.S. Born Child, U.S. Born Parents | |
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Key Variables								
Parents' Sensitivity	35.30	4.49	33.62	4.58	32.05	4.14	34.28	4.55
Child's NCAT	15.34	2.75	15.44	2.78	15.03	2.76	15.41	2.86
Demographic Characteristics								
Child's Age	0.15	0.35	0.16	0.37	0.12	0.33	0.18	0.38
Child's Sex (Male)	0.51	0.50	0.49	0.50	0.51	0.50	0.51	0.50
Maternal Age	29.61	6.17	26.06	6.14	27.88	5.99	25.68	6.20
Maternal Education								
Less than High School	0.10	0.29	0.25	0.43	0.49	0.50	0.27	0.45
High School	0.28	0.45	0.38	0.49	0.31	0.46	0.37	0.48
Beyond High School	0.62	0.48	0.37	0.48	0.20	0.40	0.36	0.48
Maternal Work Status								
Employed	0.53	0.50	0.54	0.50	0.34	0.48	0.49	0.50
Poverty	0.13	0.34	0.48	0.50	0.43	0.50	0.34	0.47
Family Structure Characteristics								
Parental Union Status								
Single	0.10	0.30	0.57	0.50	0.12	0.32	0.30	0.46
Cohabitation	0.10	0.30	0.14	0.35	0.27	0.44	0.22	0.42
Married	0.81	0.40	0.29	0.46	0.61	0.49	0.48	0.50
Extension Type								
None	0.90	0.31	0.68	0.47	0.67	0.47	0.68	0.47
Vertically Extended	0.05	0.22	0.10	0.30	0.05	0.23	0.12	0.32
Horizontally Extended	0.01	0.12	0.06	0.25	0.17	0.38	0.04	0.19
Both Extension	0.04	0.19	0.15	0.36	0.10	0.30	0.16	0.37
Unweighted N		**3,800**		**1,300**		**700**		**500**

+ p< .10 * p<.05 ** p<.01 *** p<.001
Data Sources: Children Ages 0-1 in 2001-02, ECLS-B.

Table 3. Logistic Regression Models Investigating Child's Emotion Regulation (Odds Ratios)

	NH White			NH Black			Mexican U.S. Born Child, Immigrant Parents			Mexican U.S. Born Child, U.S. Born Parents		
	1	2	3	1	2	3	1	2	3	1	2	3
Demographic Characteristics												
Child's Age	0.86	0.86	0.75*	1.10	1.09	0.92	1.26	1.24	1.03	1.01	1.08	0.92
Child's Sex (Male)	0.99	0.99	1.01	0.75+	0.75+	0.83+	0.80	0.82	0.86	0.55*	0.57*	0.59*
Maternal Age	1.01	1.01	1.01	1.01	1.00	0.99	0.99	0.99	0.99	1.00	1.00	0.98
Maternal Education (ref: LT High School)												
High School	1.27	1.28	1.24	1.02	1.01	0.97	1.05	1.02	1.00	1.76*	1.77*	1.59*
Beyond High School	1.16	1.17	0.94	1.32	1.27	1.01	0.86	0.83	0.65	1.29	1.30	1.19
Maternal Work Status												
Employed	0.95	0.95	0.98	1.25	1.22	1.27	1.37	1.43	1.35	1.17	1.18	1.16
Poverty	1.14	1.15	1.24	1.07	1.03	1.16	1.09	1.14	1.22	0.83	0.89	0.95
Family Structure Characteristics												
Parental Union Status (ref: Single)												
Cohabitation		1.03	1.02		0.88	1.01		1.14	1.37		0.65	0.72
Married		1.03	0.93		1.06*	1.02		1.53*	1.59		1.02	1.03
Extension Type (ref: None)												
Vertically Extended		1.05	1.09		0.57*	0.75		0.84*	0.89		1.12	1.00
Horizontally Extended		1.27	1.18		0.71	0.78		1.17*	1.34		0.75	0.79
Both Extension		1.02	0.99		0.73	0.82		0.96	1.09		0.55	0.64
Mother-Child Relationship Characteristics												
Parent's sensitivity			1.15***			1.18***			1.19***			1.14***
Unweighted N			**3,800**			**1,300**			**700**			**500**

+ p< .10 * p<.05 ** p<.01 *** p<.001

Data Sources: Children Ages 0-1 in 2001-02, ECLS-B