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FAMILY PROCESSES AMONG EARLY HEAD START FAMILIES:
TESTING THE ROLE OF PARENTAL SELF-EFFICACY IN
THE FAMILY STRESS MODEL

A Dissertation

Presented to

the Faculty of Social Sciences

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Eliana Hurwich-Reiss

August 2017

Advisor: Sarah Enos Watamura, Ph.D.

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Abstract

The Family Stress Model (FSM) provides a framework for how economic pressure can impact family processes and outcomes, including parent's mental health, parenting, and child problem behaviors. Although the FSM has been widely replicated, samples disproportionately impacted by poverty including early childhood samples and in particular Latino families with young children, have been largely excluded from the FSM research. Therefore, among a sample of ethnically diverse Early Head Start children (N=148) and among a subsample of Latino children (n=100), the current study evaluated a modified FSM to understand the direct and indirect pathways among economic pressure, parental depression, parenting self-efficacy, the parent-child relationship, and child problem behaviors. Results showed that the modified FSM including parenting self-efficacy was successfully replicated within the full early childhood sample; however, specific hypothesized pathways were not replicated among Latinos. Further analyses illuminated how pathways identified in the full sample were replicated among more but not among less acculturated Latino parents. Implications for future FSM research with Latino families as well as for parent-focused interventions are discussed.

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Chapter One: General Background

Children under the age of three are at particular risk for living in low-income environments with 47% living within 200% of the poverty line (Jiang, Ekono, & Skinner, 2015). Furthermore, significant racial/ethnic disparities exist such that 65% of Latino, 69% of American-Indian, and 70% of African-American infants and toddlers are in low-income families as compared to 34% of their European American counterparts (Jiang et al., 2015). Poverty rates are also exacerbated for immigrant children as compared to their native born counterparts (Jiang et al., 2015).

These disparities are concerning as abundant research demonstrates that poverty and its associated stressors can have significant negative impacts on children's socioemotional well-being, including problem behaviors (Evans & English, 2002; McLoyd, 1998). In turn, socioemotional well-being in childhood predicts mental health, academic competence, and risky behaviors such as substance use later in adolescence and early adulthood (King, Iacono, & McGue, 2004; Masten et al., 2005). Although we know that poverty status places children at risk for problem behaviors, this demographic indicator does not reveal mechanistic process, and therefore does not offer a clear path to prevention or remediation. Increasing our understanding of the family level processes that contribute to parent and child socioemotional well-being and to parent-child relationship functioning is vital for identifying leverage points to enhance programs and policies that

appropriately address the needs of low-income families and effectively disrupt the cascading effects of poverty (Brooks-Gunn & Duncan, 1997; Rijaarsdam et al., 2013).

Family process models propose family-based pathways linking environmental stress to parental functioning, which in turn impacts their children. Specifically, the Family Stress Model (FSM; Conger, Ge, Elder, Lorenz, & Simons, 1992) shows that poverty impacts children's socioemotional well-being by increasing economic pressure and stress, which negatively impacts parenting and parent's mental health. Because poverty impacts children in part or in full via these more proximal family processes, promising research has further identified that parents, through positive parenting and good mental health, can buffer their children from the consequences of poverty on their socioemotional well-being (Conger et al., 2002). While alternatives to the FSM exist, the FSM is one of the primary theoretical frameworks used to illustrate how poverty impacts child problem behaviors through family level factors.

The FSM is useful as it not only offers a theoretical framework for how poverty impacts child well-being, but it also offers concrete, proximal and modifiable targets for preventative interventions. One intervention route is to target poverty itself through conditional cash transfer and income supplement programs such as the earned income tax credit (Yoshikawa, Aber, & Beardslee, 2012). These types of programs have been shown to benefit children's academic and behavioral outcomes (Dahl & Lochner, 2008; Duncan, Huston, & Weisner, 2007; Gennetian & Miller, 2000). Similarly, Costello and colleagues (2003) demonstrated that boosting a community's economy by opening a casino not only decreased poverty rates but it also benefited youth's behavioral, psychological and

educational outcomes. Another intervention route is to target those mechanisms thought to link poverty to poor child well-being such as parenting, the parent-child relationship and/or parents' mental health. Interventions targeting these links have also demonstrated promising effects on child socioemotional and academic outcomes (Compas et al., 2010; Stormshak, Connell, & Dishion 2009). Further, targeting those elements that involve the family (e.g., parent-child relationship) rather than solely the individual (e.g., parent or youth mental health) may be particularly effective for, and well-received by, ethnic minority families (Hurwich-Reiss, Rindlaub, Wadsworth, & Markman, 2014; Kumfer, Alvarado, Smith, & Bellamy, 2002; Szapocznik & Kurtines, 1993). Findings that ethnic families prefer family-focused interventions over youth/parent only interventions may in part be due to traditional ethnic family values that emphasize the collective over the individual (Kumfer et al., 2002).

Unfortunately, the majority of existing work has examined the FSM within adolescent (e.g., Conger et al., 1992; Conger et al., 1993; Conger et al., 2002; Parke et al., 2004) rather than early childhood samples (for exceptions see Elder & Caspi, 1988; Linver, Brooks-Gunn, & Kohen, 2002), despite evidence that poverty exposure is most likely in early childhood, and that early poverty exposure can have lifelong detrimental impacts (Manz, 2012). Additionally, FSM work to date has largely ignored Latino families despite their over-representation among those living in poverty and their subjection to additional environmental stressors such as acculturative and immigration related stress (Cervantes et al., 2013; Lopez & Velasco, 2011). This is also problematic as FSM pathways can differ depending on child age and family ethnicity (Ardelt & Eccles,

2001; Parke et al., 2004); therefore, identifying the specific proximal family processes that connect poverty to child socioemotional well-being among Latino parents of young children is vital for informing culturally appropriate interventions.

Thus, the current study will work from a Family Stress Model framework to evaluate the pathways among economic hardship, economic pressure, parental mental health, parenting, and child socioemotional well-being among a sample of Early Head Start infants and toddlers, the majority of whom are from Latino immigrant families. Furthermore, in response to increasing demand for cultural and contextual expansion of the FSM (e.g., White, Liu, Nair, & Tein, 2015), the current study will extend the model to include parenting self-efficacy (PSE), an often ignored facet of parenting that has been shown to be particularly relevant for low-income, immigrant, and Latino parents (Ardelt & Eccles, 2001; Izzo, Weiss, Shanahan, & Rodriguez-Brown, 2000), and explore the potential moderating role of acculturation.

Family Stress Model

Conger and colleagues developed The Family Stress Model (FSM; Conger et al., 1992) to explain how economic hardship leads to negative child outcomes via its effect on a series of mediated relationships between parent's mental health and parenting. Specifically, the FSM proposes that economic hardship (frequently measured by negative financial events such as being unable to pay the rent or electricity), creates perceptions of economic pressure. Economic pressure in turn leads to parent psychological distress, which disrupts interparental relationships, high quality parenting, and parent-child

relationships, ultimately leading to poor child socioemotional well-being. Figure 1 shows the original FSM model.

The original FSM studies were conducted in the 1990s with middle class Caucasian families in the rural Midwest (e.g., Conger et al., 1992). In more recent years the FSM has been extended to low-income urban and rural African Americans (Conger et al., 2002; Scaramella, Sohr-Preston, Callahan, & Mirabile, 2008), Mexican Americans (Parke et al., 2004), and ethnically diverse samples comprised primarily of a mix of African American, Latino, and European American families (Mistry, Vandewater, Huston, & McLoyd, 2002). The overwhelming majority of these studies included school age and adolescent children. The following sections will outline the limited body of work examining the FSM pathways in early childhood populations, highlight available research on these pathways among Latino families, and provide reasoning for the addition of parenting self-efficacy and acculturation when replicating the FSM within low-income and Latino families.

Economic hardship and parent mental health. The relationship between economic hardship and parent psychological distress, in particular maternal depression, has been well-established among ethnically diverse children and across development (Mistry, Vandewater, Huston, & McLoyd, 2002; Rijlaarsdam et al., 2013), including among African-American and European-American parents who have a child in Early Head Start (Beeber et al., 2014). Mothers of young children living in poverty have been identified as particularly vulnerable to depression (Belle & Doucet, 2003).

Although research is more limited, the relationship between poverty and parental depression has also been consistently found among Latino families (Dennis, Parke, Coltrane, Blacher, & Borthwick-Duffy, 2003; Ornelas & Perreira, 2011; Parke et al., 2004; Pulgar et al., 2015). Further, the relationship between economic pressure and child problem behaviors was mediated by maternal depression among Latinos with school age children (Dennis, Parke, Coltrane, Blacher, & Borthwick-Duffy, 2003). Despite these findings, I am aware of no publications that have examined these relationships specifically in Latina mothers of young children. A handful of studies have examined this relationship in samples that have included large percentages of Latina mothers of young children, and these studies have revealed mixed results. For example, among an ethnically diverse sample of mothers of toddlers, the large majority of whom were low-income Latina immigrants (65%; n=66), higher maternal education (a proxy for socioeconomic status; SES) predicted lower maternal depression, yet income did not (Diener, Nievar, & Wright, 2003). However, in another study of ethnically diverse mothers and their Early Head Start children (33% Latino; n=89), low SES (defined by low maternal income, education and employment) predicted greater maternal depressive symptoms only indirectly through family factors (i.e., relationship satisfaction, support, and parenting stress; Malik et al., 2007). Since Latina mothers were not compared separately in these studies, it is difficult to make conclusions about these relationships in Latina mothers of young children; however, these studies do highlight the complexity of these relationships and the need for additional research to clarify these relationships for Latina mothers specifically.

Parent mental health and parenting. Abundant evidence supports the relationship between higher levels of parent's emotional distress and compromised parenting behaviors among ethnically diverse mothers (e.g., for a review see Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Prelow, Weaver, Bowman, & Swenson, 2010). Depressive symptoms may alter a mother's ability to respond consistently to her child, engage with her child, follow through with discipline and limit setting, and ultimately damage the parent-child relationship in parents of children across development (Strand & Wahler, 1996; Yeung, Linver, & Brooks-Gunn, 2002). Further, numerous studies have demonstrated that lower SES predicts poorer parent-child relationship quality, as characterized by lower levels of parental warmth, greater negativity, harsher discipline and more frequent use of inconsistent parenting practices (Belsky et al., 2007; Conger, Ge, Elder, Lorenz & Simons, 1994; Dodge, Pettit, & Bates, 1994; Klebanov, Brooks-Gunn, & Duncan, 1994), and that maternal depression fully mediates this link (Conger et al., 1992; Mistry, Vandewater, Huston, & McLoyd, 2002; Yeung et al., 2002). Although the majority of research investigating the depression-mediated SES effects on parenting has been conducted among parents of school age and adolescent children, this relationship has also been supported among ethnically diverse parents of young children (Linver et al., 2002; Rijlaarsdam et al., 2013; Scaramella et al., 2008).

Among Latina mothers of school age children preliminary research shows that maternal depressive symptoms directly relate to poorer parenting, and are one of the pathways linking poverty to compromised parenting (Pachter, Auinger, Palmer, & Weitzman, 2006; Parke et al., 2004). Further, poverty impacts Latino children's problem

behaviors indirectly through parental depression and parenting (Pachter et al., 2006). Little is known regarding parental depression and parenting among Latino parents with young children; however, in contrast to the work reviewed here, Cabrera and colleagues (2006) found no relationship between maternal depression and the parent-child relationship among Latino parents of infants.

Parenting and child socioemotional well-being. Positive parenting qualities as well as a high quality parent-child relationship directly relate to children's current socioemotional well-being as well as their psychological well-being later in adulthood (Mallers, Charles, Neupert, & Almeida, 2010). Further, maternal depression primarily leads to child problem behaviors via its impacts on parenting (for a review see Downey & Coyne, 1990; Goodman et al., 2011). This relationship has been demonstrated in ethnically diverse families with young children (Linver et al., 2002; Rijlaarsdam et al., 2013; Scaramella et al., 2008).

Poor parenting quality and parent-child relationships predict problematic child behaviors among Latino families with school age (Corona et al., 2012; Holtrop, Smith, & Scott, 2015; Taylor, Conger, Robins, & Widaman, 2015), and preschool children (Calzada, Huang, Anicama, Fernandez, & Brotman, 2012). However, the relationship between parenting and child problem behaviors remains unclear in Latino samples, with limited and conflicting findings depending on how parenting is measured. For example, among school age children, Holtrop and colleagues (2015) found that parenting behaviors of skill encouragement and monitoring were related to reduced child problem behaviors,

yet, noncoercive limit setting and problem solving were related to increased problem behaviors.

Limitations in the Current FSM Literature

As demonstrated in the above sections, despite numerous studies that have replicated the FSM, relatively few studies have used a family process perspective to examine the parent-based mechanisms that link economic hardship to child outcomes in very young children (e.g., for exceptions see Gershoff, Raver, Aber, & Lennon, 2007; Jackson, Brooks-Gunn, Huang, & Glassman, 2000; Kiernan & Huerta, 2008; Rijlaarsdam et al., 2013; Yeung, et al., 2002) and fewer studies have examined these processes in ethnically diverse and low-income samples with children under four years (for exceptions see Linver et al., 2002; Scaramella et al., 2008). Moreover, no study thus far has explored the FSM among Latino immigrant families of young children, which is concerning considering that 65% of Latino children three and under are living in poverty (Jiang et al., 2015). This is also problematic as preliminary research examining the FSM in Latino families of school age children shows that pathways may differ between Latinos and European Americans (Parke et al., 2004). Therefore, in order to appropriately and accurately inform interventions for Latino families, this model and alternatives need to be thoroughly tested specifically among Latino parents and their young children.

Furthermore, scarce research has extended the FSM to more comprehensively understand how family processes operate among low-income and ethnically diverse families. Identifying these factors is crucial for informing interventions that aim to buffer children from poverty-related risks. Two notable studies have extended the FSM to

understand those factors that can lessen the effects of economic pressure on child outcomes. Specifically, Wadsworth and colleagues (2013) demonstrated that among ethnically diverse low-income families certain types of coping contributed to more favorable parent mental health and parenting outcomes within the context of economic strain. Further, White and colleagues (2015), among Mexican origin families, showed that stronger family cultural values mitigated the negative effects of economic pressures on parenting behaviors. Better understanding additional family level factors that can disrupt the pathways between economic pressure and child problem behaviors will help identify proximal targets to incorporate in family and parent-focused interventions.

Addition of PSE to the FSM

Despite abundant research demonstrating that parenting self-efficacy is interconnected with poverty-related risks, parent mental health, parenting competencies, and child socioemotional well-being (Jones & Prinz, 2005) no study thus far has examined how PSE operates within the FSM. Although Scaramella and colleagues (2008) replicated the FSM among low-income African American and European American mothers of toddlers using PSE as their proxy for parenting, this study did not include both PSE and parenting to understand how these factors work together within the FSM. PSE is a promising pathway as it has been shown to mediate the effects of maternal depression on parenting (Gondoli & Silverberg, 1997), and the effects of environmental risk factors on youth socioemotional well-being (for a review see Coleman & Karraker, 2000). Further, although PSE is correlated with similar outcomes as are traditional parenting

behavioral measures, and correlated with parenting behaviors, it is not equivalent and therefore, may have unique influences on child outcomes (Coleman & Karraker, 2003).

Bandura defines general perceived self-efficacy as an individual's judgments regarding how well s/he can deal with prospective situations (e.g., Bandura, 1982). Likewise, PSE concerns parents' judgments of how well they would cope with prospective situations with their children, and their ability to influence their children's development and behavior (Coleman & Karraker, 2003). Individuals are theorized to develop self-efficacy via a series of avenues; those particularly relevant to PSE include "mastery experiences" based on personal successes and failures, "vicarious experiences" from seeing people similar to themselves succeed after persistent effort, and "social persuasion" by receiving verbal feedback indicating that they are capable of mastering activities (Bandura, 1995; Coleman & Karraker, 1997).

PSE is a logical addition to the FSM for low-income families for several reasons. First, theoretically and supported by previous research, PSE is particularly relevant to parents facing challenging environmental circumstances including economic pressures (Bandura, 1982; Elder, Eccles, Ardel, & Lord, 1995; Raver & Leadbeater, 1999). Numerous poverty indicators including a parent's perceived adequacy of financial resources (Brody, Flor, & Gibson, 1999), low education, low income (Coleman & Karraker, 2000) and cumulative environmental risks (e.g., low social support, and demographic risks; Raver and Leadbeater, 1999) all have a profound negative impact on PSE. Economic hardship may exacerbate parents' feeling of inefficacy in their parenting role directly and indirectly. Direct effects would include the impact of economic resource

loss on parents' confidence in controlling their child's environment, and indirect effects would include the impact of economic hardship on parent depressive symptoms (Elder et al., 1995). Further, for low-income parents, parents with high PSE are also more likely to persevere in understanding their child's wants and needs even despite their challenging circumstances (Hess, Teti, & Hussey-Gardner, 2004). Lastly, low-income environments may also limit parents' opportunities to develop their PSE, specifically their opportunities to achieve parenting "mastery experiences," and to receive positive feedback that they are capable of such mastery (Bandura, 1995; Coleman & Karraker, 1997).

In addition to being relevant for low-income families in general, PSE is a logical addition to the FSM for low-income Latino families specifically for several reasons: First, the majority of Latino children are living in poverty (62% living within 200% of the poverty level), with one in eight living in deep poverty (less than 50% of the poverty level; Murphy, Guzman, & Torres, 2014). Second, stressful life circumstances may have a particular negative impact on Latina mother's PSE as compared to low-income European Americans (Machida, Taylor, & Kim, 2002). Traditional Latino values including familismo, which emphasize closely family relationships and family obligation, may make PSE have an especially strong influence on Latino children's well-being as compared to their ethnic counterparts (Glatz & Buchanan, 2015). Lastly, preliminary research that shows that PSE is modifiable in Latina mothers with appropriate intervention (Piedra, Byoun, Guardini, & Cintron, 2012) provides additional support for the potential that enhancing PSE through interventions may play in determining the

trajectory of Latino children growing up in stressful environmental conditions including poverty.

Although the work is limited, studies with ethnically diverse and low-income families including Latinos have linked PSE directly and indirectly to components of the FSM (specifically economic hardship/pressure, parental depression, parenting, and child outcomes). Unfortunately, thus far, the majority of PSE research with Latinos has been conducted in ethnically diverse samples that have included Latinos, but not examined them separately. In a recent review of PSE in Latina mothers (Hurwich-Reiss, 2015) out of the 33 studies to date that have included Latinas only 15 studies examined PSE among Latinas specifically. Nine of these studies examined PSE and one of the four core FSM components within Latina mothers. Among these studies higher PSE was associated with higher neighborhood quality (Shumow & Lomax, 2002) and greater family income (Le & Lambert, 2008), positive parenting behaviors such as warmth, acceptance and monitoring (Dumka et al., 1996; Dumka et al., 2010; Izzo et al., 2000; Shumow & Lomax, 2002), increased use of authoritative and authoritarian parenting styles (Celada, 2010), and reduced adolescent conduct problems (Dumka & Barrera, 2002; Dumka et al., 2010). The relationship between maternal depression and PSE in Latina mothers remains unclear; one study found no relationship (O'Neil, Wilson, Shaw & Dishion, 2009), while another study confirmed the expected inverse relationship (Le & Lambert, 2008).

Consistent with the original FSM, a series of indirect and mediated relationships are also supported with PSE among Latino families. Among a sample of first generation Mexican immigrant mothers (Izzo et al., 2000) and an ethnically diverse sample where

Latina mothers were examined separately (Shumow & Lomax, 2002), PSE predicted youth socioemotional well-being indirectly through parenting behaviors among school age and adolescent youth. Dumka and colleagues (2010) in their large sample of Mexican American parents and their pre-adolescent youth explored the directionality of the relationships between PSE, parenting, and child problem behaviors, and confirmed a PSE-driven process whereby higher PSE predicted increased positive parenting as well as reduced youth conduct problems rather than the reverse.

PSE work with non-Latino samples highlights the importance of examining between group ethnic differences in PSE research. In a seminal study of low-income African American and European American parents (Ardelt & Eccles, 2001; Elder et al., 1995), economic pressure negatively impacted PSE directly and indirectly through parental depression for African American parents, whereas for European American parents, only the indirect relationship existed. PSE in turn directly and indirectly predicted youth's academic outcomes in African American, but not European American mothers. Preliminary research using multiethnic samples has also shown that the relationships among PSE and environmental risk factors, parenting, and youth outcomes may differ between Latino families and their counterparts of other ethnicities (Dumka et al., 1996; Machida et al., 2002; O'Neil et al., 2009; Shumow & Lomax, 2002).

Thus, although there is preliminary support that PSE may be a valuable addition to the FSM for low income Latino families, due to the limited number of studies, and the sometimes contradictory results when racial/ethnic groups are examined separately, its utility across populations remains unknown. Further, although a handful of studies have

examined direct and indirect relationships between PSE and the core FSM components, no study has examined the particular role PSE can play within the comprehensive FSM for ethnically diverse families of young children, in particular Latino families.

Acculturation as a Moderator

Recent research with Latinos highlights how cultural factors can shape the way environmental stress impacts parenting (White et al., 2015). Therefore, incorporating cultural factors into the FSM for Latinos is important to accurately understand how economic pressure impacts family processes. Furthermore, the Latino population, like all racial and ethnic groups, is heterogeneous and often within-group differences are as large as or larger than between group differences. Understanding this diversity is important for researchers, but also for clinicians and policy makers who seek to target families with children at risk for poor socioemotional outcomes and provide appropriate intervention through parent-focused services (Wildsmith, Ansari, & Guzman, 2015).

The National Research Center on Hispanic Children and Families recently identified data elements that are high priority for unpacking the diversity of Latinos and that should be incorporated into all research studies with Latinos. These elements include languages spoken at home, English proficiency, and time in the U.S. among others. Interestingly, many of these data elements are used to assess an underlying construct of acculturation (Wildsmith et al., 2015). Although each of these pieces may not reflect the complete psychological and social experience involved in the acculturation process they are commonly used as a proxy for Latino acculturation (Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005).

Acculturation is often defined using Berry's acculturation framework, which explains acculturation as "the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members" (Berry, 2005, p. 698). This process of coming into contact with and adapting to a new culture impacts recent first generation immigrants as well as subsequent generations born in the U.S. (Cervantes et al., 2013). Both unidirectional (assimilation models) and bidirectional (individuals can acquire the dominant culture while simultaneously maintaining their culture of origin) models are used in the conceptualization and measurement of acculturation (Lara et al., 2005). Among Latinos, acculturation may have a positive, negative, mixed or no effect on health outcomes depending on the acculturation measure, health outcome, as well as the individuals' gender, age, education and country of origin (for a review see Lara et al., 2005). However, overall, research with Latinos in the U.S. shows a general trend of a negative impact of acculturation on behavioral, psychological and physical health outcomes (Escobar, Nervi, & Gara, 2000; Lara et al., 2005). Indeed, less acculturated individuals often have better than expected health outcomes, a phenomenon often referred to as the Hispanic (or Immigrant) Health Paradox (Cunningham, Ruben, & Narayan, 2008). However, bidirectional acculturation models also show that having high orientations to both Latino culture and Anglo culture relates to positive health outcomes, while having low orientation to both cultures is associated with the poorest outcomes (Berry, 2006; Smokowski, Rose, & Bacallao, 2008).

Various theories offer explanations for how low acculturation and retention of traditional culture may have a protective effect for Latinos, including support offered from the traditional close knit family unit, the higher proportion of two parent families present in less-acculturated families, positive health behaviors more consistent with traditional values, and differences in expectations for success held by less acculturated individuals (Escobar et al., 2000). In-line with the Healthy Migrant Hypothesis, it may also be the case that for recent Latino immigrants, the set of physical and psychological strengths that allowed them to leave their home country, despite the sacrifices and risks that come with this decision, may help protect them against stressors post-immigration (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999). Similarly, the Cultural Integration Hypothesis holds that for Mexican American immigrants, due to the optimism and resiliency imparted on Mexican individuals by their family-based environments prior to immigration, immigrants may arrive in the U.S. with a favorable self-concept that can in turn buffer them when faced with numerous post-immigration stressors (Buriel, 2012). Buriel (2012) unfortunately highlights that as individuals become more acculturated they increasingly internalize self-defeating stereotypes regarding Mexican Americans that are prevalent in U.S. media and politics, and thus lose these initial self-concept advantages.

Due to the potential risks and protections associated with the acculturation process, acculturation may be important to consider when evaluating the FSM among Latino families. García Coll and colleague's Integrative Model for the Study of Developmental Competencies in Minority Children (García Coll et al., 1996) describes how environmental factors such as poverty interact with a family's culture and values to

impact parenting and child outcomes among minority families. White and colleagues (2015) joined García Coll's Integrative Model with the FSM to create an Integrated FSM for Mexican American families. Their findings showed that among Mexican origin mothers of adolescents, higher familism values (often in-line with lower acculturation) had a protective effect, and buffered against the negative impact of environmental stressors on parenting warmth. On the contrary, Parke and colleagues (2004) in their modified FSM with Latino families found that lower maternal acculturation (as measured by individuals Mexican versus Anglo orientation) was directly related to less favorable outcomes of higher hostile parenting and increased maternal depressive symptoms. It is possible these contrasting results may be attributed to different measurements of acculturation.

In addition to being relevant to the FSM for Latinos, acculturation is important to consider in the current study's modified FSM due to its documented and hypothesized relationship with PSE. There remains disagreement in the immigrant literature if acculturation places immigrant families at risk for low PSE, or is protective. Some authors theorize that the greater English proficiency that comes with increased acculturation provides opportunities for additional mastery parenting experiences in the U.S., leading to higher PSE among more acculturated parents (Costigan & Koryzma, 2011). On the other hand, experts also suspect that those with lower acculturation may maintain higher PSE due to additional community supports offered by more tightknit traditional communities (Costigan & Koryzma, 2011).

Thus, acculturation can be risky or protective for PSE depending on the population and outcome (Ceballo & Hurd, 2008; Costigan & Koryzma, 2011). Among non-Latino immigrants low acculturation appears to be a risk factor for poor PSE (Ali, 2008; Costigan and Koryzma, 2011). However, limited research with Latina mothers shows that lower acculturation may actually be protective to their PSE, perhaps due to pressures from competing cultural parenting norms that come with increased acculturation (Ceballo & Hurd, 2008). Despite this evidence that lower acculturation may be beneficial to Latina mother's PSE, no study has examined if acculturation can moderate the impact of risk factors, such as economic pressure or parental depression, on PSE, within the context of the FSM. Understanding how acculturation moderates pathways within the FSM is important as it can provide us with valuable insight into the adaptation process for low-income Latino families (Torres, Driscoll, & Voell, 2012). Additionally, it can offer researchers and clinicians valuable information regarding those subgroups of Latinos who may have increased or decreased vulnerability to the negative consequences of living in situations of economic hardship.

Chapter Two: Current Study

The Family Stress Model provides a valuable framework for understanding the pathways that link economic hardship and problematic child outcomes. Understanding these pathways is vital for identifying proximal targets that can be addressed through interventions to buffer children from the detrimental consequences of economic pressure on their socioemotional well-being. The Family Stress Model has been primarily explored within samples of European American parents with adolescent youth. There is a shortage of research examining these pathways in young children under three, in particular from Latino origins. Thus, the current study will modify the FSM to include parenting self-efficacy, and extend the FSM to a sample of Early Head Start families with young children, the majority of whom are Latino immigrant families (see Figure 2 for a conceptual model of the modified FSM). Consistent with previous research grounded in the FSM (e.g., Liver et al., 2002; White et al., 2015), the current study will focus on the mediating pathways of parent mental health and parenting, but exclude interparental relationships. Further, in response to recent calls to unpack the diversity within the Latino population (e.g., Wildsmith et al., 2015) the current study will examine how parent acculturation level may moderate specific FSM pathways within Latino families.

The current study aimed to evaluate if a modified FSM that includes PSE replicated within the entire sample of ethnically diverse Early Head Start families, and investigated if this modified FSM replicated within a subsample of Latino families.

Consistent with the FSM, I expected that among all families and Latino families only, economic hardship would relate to economic pressure, which would relate to child internalizing and externalizing behaviors through parent-mediated pathways. Specifically, I hypothesized that economic pressure would be associated with PSE indirectly through parental depression, and with the parent-child relationship indirectly through parental depression and PSE. I also hypothesized that economic pressure would relate to child externalizing and internalizing indirectly through parental depression, PSE, and the parent-child relationship. Lastly, the current study aimed to understand whether parent acculturation level (as measured by Spanish/English language preference) moderated the relationships between economic pressure, parental depression, the parent-child relationship and parenting self-efficacy for Latino families. I predicted that among Latinos the relationship between economic pressure and PSE, parental depression and PSE, economic pressure and the parent-child relationship and parental depression and the parent-child relationship, would be moderated by acculturation, such that having a low acculturation level would reduce the impact of economic pressure and parental depression on PSE and the parent-child relationship.

Chapter Three: Methods

Procedure

Participants were part of a larger longitudinal intervention study; however, the current manuscript is based solely on the initial screening visit before families were randomized to an intervention or control group. All families who had a child enrolled at our Early Head Start partner sites were eligible for the initial screening visit of the study. Participants were recruited by our bilingual research team in person during school drop off and pick up, at family events, and via the child's family educator for families in home-based programs. All data was collected in the family's home by a team of at least two bilingual data collectors. Due to the varied literacy and education level of our participants, questionnaire data was collected in interview format from the primary parent in either Spanish or English depending on the parent's preference and using pictorial aids. Spanish questionnaires were either taken from previously validated translations, or were translated and back-translated by bicultural/bilingual members of our team using standardized procedures. Responses were collected in a secure computerized program and periodically downloaded and checked. Participants were given \$50 for completion of the screening portion of the study.

Participants

Participants were 148 children attending programs utilizing Early Head Start funding, 26 of whom were part of sibling pairs. Children ranged in age from 5-46 months

($M=25.59$; $SD= 9.71$) and were 41% female. Primary caregivers ($N=135$) ranged in age from 18-49 years ($M=30.83$; $SD=6.40$). The majority of primary caregivers were mothers (98%) and of Latino origin (72%). Of Latino caregivers, 76% were foreign born, primarily in Mexico (89%). The average after tax income for all families was \$21,645 ($SD=\$15,254.71$), with 75% of families living at or below the poverty line, and 95% living within 200% of the poverty line. Table 1 includes demographic information for the overall sample of caregivers and children, as well as our Latino subsample.

Measures

Acculturation. To assess their level of acculturation, parents were asked to indicate their preference for Spanish versus English on a five-item language measure derived from the work of Vega and colleagues (Turner, Lloyd, & Taylor, 2006; Vega & Gil, 1998). Parents were asked to respond to four statements (*What language do you prefer to speak? What language do you speak at home? What language do you speak with friends? In what language are the books, magazines, movies, radio and TV that you read, watch or listen to?*) on the following scale: 0 *Spanish all the time*, 1 *Usually Spanish*, 2 *Spanish/English Equally*, 3 *Usually English*, 4 *English all the time*. Language is a commonly used assessment when measuring acculturation in Latinos (Canabal & Qules, 1995; Ispa et al., 2004; Reitzel et al., 2010). This acculturation scale has demonstrated good reliability among Latino parents of preschoolers ($\alpha = .84$; Mendoza, Dmitrieva, Perreira, Hurwich-Reiss, & Watamura, 2016). The language composite demonstrated adequate to good reliability among the current study's overall sample ($\alpha =$

.95) and Latino subsample ($\alpha = .90$) and on the English ($\alpha = .90$) and Spanish version ($\alpha = .74$).

Child problem behaviors. Parents completed the Child Behavior Checklist 1 ½ - 5 (CBCL; Achenbach & Rescorla, 2000) or Brief Infant Toddler Social Emotional Assessment (BITSEA; Briggs-Gowan, Carter, Irwin, Wachtel & Cicchetti, 2004), depending on the child's age, to assess their child's emotional and behavioral problems over the past six months. The CBCL was used for children 18 months or older, and the BITSEA was used for children under 18 months. Both questionnaires asked parents to rate on a 3-point Likert scale 0 (*never true*), 1 (*sometimes true*) and 2 (*very often true*) the frequency of symptoms. The current analyses used a combined percent score of total possible internalizing and externalizing problems as reported on the CBCL or BITSEA (age dependent) to form the Externalizing Problems and Internalizing Problems constructs. Both the CBCL ($\alpha = .76-.88$; Rescorla, 2005) and the BITSEA ($\alpha = .69-.80$; Briggs-Gowan & Carter, 2008) have shown adequate internal consistency. The CBCL has also been shown to be reliable in Latino infants with immigrant mothers ($\alpha = .92 - .93$; Beeber et al., 2010). The child externalizing and internalizing composites demonstrated adequate to good reliabilities respectively among the current study's whole sample ($\alpha = .93, \alpha = .89$) and Latino subsample ($\alpha = .92, \alpha = .76$) and on the English ($\alpha = .93, \alpha = .92$) and Spanish version ($\alpha = .91, \alpha = .78$).

Economic hardship. Parents reported on their level of economic hardship using a five-question measure adapted from the Iowa Youth and Family Project (Conger et al., 1994). Similar measures of economic hardship have demonstrated strong predictive

validity in low-income ethnically diverse samples (Wadsworth et al., 2013). Parents were asked to report (0 *no*, 1 *yes*) if they had experienced five different hardships over the past 12 months. These hardships included: 1) *being without telephone services*, 2) *being unable to pay the full rent or mortgage*, 3) *being evicted from their home/apartment*, 4) *being unable to pay the full gas, electricity, or oil bill*, and 5) *having a gas or electricity service turned off because they couldn't pay the bill*. The current analyses used a percent sum score of these five questions to reflect the toll that cumulative resource loss can have on families. Parents' responses were summed and then divided by their total possible points to account for some parents who did not answer all 5 questions.

Economic pressure. For the current analyses I created a composite variable to capture economic pressure composed of the following questions reported on by the primary parent: 1) *How difficult is it for you to pay your family's bills each month?* (0 *no difficulty at all* – 4 *a great deal of difficulty*); 2) *Generally, at the end of each month, do you end up with* (0 *more than enough money left over* - 4 *not enough to make ends meet*); 3) *My family has enough money to afford the kind of home we need* (0 *usually* – 3 *never*); 4) *We have enough money to afford the kind of clothing we need* (0 *usually* – 3 *never*); 5) *We have enough money to afford the kind of food we need* (0 *usually* – 3 *never*). Various studies have used these questions in different combinations to assess the financial pressure that comes from economic hardship. Items 1 and 2 have been consistently used to assess economic pressure among non-Latino (Conger et al., 2002) and Latino samples (Parke et al., 2004; White et al., 2015). Economic pressure composites have demonstrated predictive validity among Latino families (Park et al., 2004). Items 3-5, which capture

unmet material needs, have also been used to measure economic pressure among non-Latino and Latino samples, however, studies vary in the specific needs assessed (e.g., Conger et al., 2002; Parke et al., 2004). The composite score included a sum of the z scores of these 5 questions, with a greater sum scores signifying higher economic pressure.

Parent depressive symptoms. Parents completed the 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) to report on the frequency of their depressive symptoms over the past week on a 4-point scale (0 *rarely or none of the time (less than 1 day over the past week)* – 3 *most or all of the time (5–7 days)*). Example items included: *For the past week, I felt sad*, and *for the past week, I was bothered by things that usually don't bother me*. A total symptom score was used. The CES-D has proven reliable with Mexican American mothers of young children ($\alpha = .90-.93$; Beeber et al., 2010). The Spanish translation of the CES-D showed adequate reliability when used with a similar Head Start sample of families by our team ($\alpha = .91$). In the current analyses, the CESD demonstrated good reliability for the overall sample ($\alpha = .90$) and the Latino subsample ($\alpha = .89$). The CESD also showed comparable reliability for the English ($\alpha = .92$) and Spanish versions ($\alpha = .87$).

Parenting self-efficacy. Parents completed the competence subscale from the Parenting Sense of Competence Scale (PSOC; developed by Gibaud-Wallson and Wandersman, 1978, cited in Johnston & Mash, 1989) to assess their domain-general PSE. Domain general PSE focuses on how parents feel in their parenting role and treats parenting self-efficacy as distinct from other forms of self-efficacy (Coleman & Karraker,

2003; Jones & Prinz, 2004). The competence scale includes 8 items and asks parents to rate their agreement with a series of statements (1 *Strongly Disagree* – 6 *Strongly Agree*), with higher scores indicating stronger PSE. Example items included: *If anyone can find the answer to what is troubling my child I am the one*, and *I honestly believe I have all the skills necessary to be a good (mother) to my child*. The PSOC has demonstrated adequate reliability among parents of toddlers ($\alpha = .81$; Coleman & Karraker, 2003). The Spanish translation of the PSOC has shown adequate internal consistency ($\alpha = .80$) and strong concurrent and convergent validity within a sample of Latino parents (Haack, Gerdes, Schneider, & Hurtado, 2011). The PSOC in the current study demonstrated adequate reliability for the whole sample ($\alpha = .80$) and for the Latino subsample of parents ($\alpha = .80$). The PSOC also showed comparable reliability for the English ($\alpha = .81$) and Spanish versions ($\alpha = .79$).

Parent-child relationship. Parents completed the 36-item Parenting Stress Index-Short Form (PSI-SF; Abidin, 1990) to assess their perceptions of their relationship with their child. The PSI requires parents to indicate their agreement (1 *Strongly Disagree* – 5 *Strongly Agree*) with a series of statements about their parenting and their relationship with the target child. The parent-child dysfunctional interaction subscale was used in the current analyses as a proxy for distress in the parent-child relationship. The subscale assesses parent's perceptions of their relationship quality often in comparison to their relationship expectations. Example items from this subscale included: *Most times I feel that this child does not like me and does not want to be close to me* and *This child smiles at me much less than I expected*. The English PSI-SF parent-child dysfunctional

interaction subscale has demonstrated adequate internal consistency among low-income samples ($\alpha = .76$; Whiteside-Mansell et al., 2007). Prior research with Latino immigrant mothers demonstrated the Spanish-PSI to have strong internal consistency and discriminant validity ($\alpha = .88 - .94$; Solis & Abidin, 1991). The parent-child dysfunctional interaction subscale demonstrated good reliability overall ($\alpha = .86$) and among the Latino subsample ($\alpha = .82$) in the current study. The scale also showed comparable reliability for the English ($\alpha = .87$) and Spanish versions ($\alpha = .84$).

Analysis Plan

Structural equation modeling using Mplus 7 software was used to evaluate the current study's modified FSM (see Figure 2 for conceptual model; Muthen & Muthen, 2015). All models employed full information maximum likelihood (FIML), thus allowing for estimation of models with missing data for endogenous variables. Furthermore, standard errors for the estimates were adjusted for clustering of siblings within families (Asparouhov, 2005). Model 1 examined the direct and indirect pathways between economic hardship, economic pressure, caregiver depression, parenting self-efficacy, the parent-child relationship, and child externalizing behaviors among the entire sample of EHS families. Model 2 examined these same pathways, but included child internalizing symptoms instead of externalizing. Child age was included as a control variable. Within these models the current analyses tested a series of indirect pathways to understand if: a) economic pressure indirectly predicted PSE, the parent-child dysfunctional interaction, and child externalizing/internalizing, b) parental depression indirectly predicted the parent-child dysfunctional interaction, and child externalizing/internalizing, and c) PSE

indirectly predicted child externalizing and internalizing. The magnitude of indirect effects was tested using Bayesian estimation. For Model 3 and Model 4, these same direct and indirect pathways were tested; however, the sample was limited to Latino families. Follow-up analyses for Latino families examined if acculturation moderated the pathways between economic pressure and PSE and parental depression and PSE (Model 5), and economic pressure and the parent-child dysfunctional interaction and parental depression and the parent-child dysfunctional interaction (Model 6).

Model fit was assessed with standard indices of chi-square, Comparative Fit Index (CFI) and the Root Mean Square Error Approximation (RMSEA). For chi-square, a good-fitting model is reflected by a small and non-significant chi square value ($p > .05$). However, chi-square is sensitive to sample size and almost always significant with large samples (Byrne, 2013). For CFI, values greater than .90 are considered acceptable, with greater than .95 considered a good fit. For RMSEA values less than .05 indicate a good fit, .08-.1 a mediocre fit, and greater than .1 a poor fit (Byrne, 2013; Rijlaarsdam et al., 2013).

Chapter Four: Results

Descriptive statistics on key study variables for all families and Latinos only can be found in Table 2. Within the overall sample on average parents reported levels of current depressive symptoms below the clinical cut off of 16 ($M = 12.13$, $SD = 10.11$). However, large variability existed within the sample such that 27% ($n = 36$) reported current depressive symptoms in the clinical range. Parents exhibited on average relatively high levels of PSE as compared to previous studies with ethnically diverse parents (Weaver, Shaw, Dishion, & Wilson, 2008) and Latino parents of young children (Goldyne, 2013). Parents reported comparable levels of parent-child dysfunctional interactions as reported by ethnically diverse parents of young children in previous studies (Reitman, Currier, & Stickle, 2002). Table 3 includes bivariate correlations between key study variables for all families and Latinos only. Within the overall sample correlations were in the expected direction. For Latinos, significant correlations were in the expected direction; however, contrary to my expectation no correlation was found between parental depression and PSE or the parent-child dysfunctional interaction. Further, the parent-child dysfunctional interaction scale was associated with child externalizing but not internalizing for Latinos.

Direct and Indirect Pathways for All Families

The standardized and unstandardized coefficients and standard errors for the direct and indirect pathways in Model 1 and Model 2 are presented in Table 4. Both

models had a good fit: $\chi^2(11) = 11.70, p > .05, CFI = .994, RMSEA = .022$, for Model 1 (child externalizing), and $\chi^2(11) = 14.10, p > .05, CFI = .965, RMSEA = .046$, for Model 2 (child internalizing). Figure 3 illustrates the hypothesized models with unstandardized coefficients for direct pathways for both models (1 and 2). As expected, higher economic hardship was directly related to higher economic pressure, $b = 5.91, p < .001$, economic pressure was related to higher parental depressive symptoms, $b = 0.89, p < .001$, parental depressive symptoms were in turn related to lower PSE, $b = -0.14, p < .01$, and a greater parent-child dysfunctional interaction, $b = 0.20, p < .01$, and the parent-child dysfunctional interaction was related to increased child externalizing, $b = 0.01, p < .001$, and child internalizing, $b = 0.01, p < .001$.

Most hypothesized indirect pathways were also supported (see Table 4 and Figure 4). Economic pressure was indirectly related to PSE through parental depressive symptoms, $b = -.12, p < .05$. Further, parental depressive symptoms were indirectly related to the parent-child dysfunctional interaction, $b = .05, p < .05$, and child externalizing, $b = .003, p < .05$, and internalizing, $b = .002, p < .05$. PSE was also indirectly related to child externalizing, $b = -.01, p < .01$ and internalizing $b = -.002, p < .01$. Contrary to expectation economic pressure was not indirectly related to child externalizing or child internalizing.

Direct and Indirect Pathways among Latinos

Unstandardized coefficients for the direct and indirect pathways for Models 3 and 4 can be seen in Figure 5. The standardized and unstandardized coefficients and standard errors for Models 3 and 4 are presented in Table 4. Model 3 (child externalizing), $\chi^2(7) =$

7.820, $p > .05$, CFI=1.00, RMSEA=0.00, and Model 4 (child internalizing), $\chi^2(7) = 5.748$, $p > .05$, CFI=1.00, RMSEA=0.00, fit the data well. As expected higher economic hardship related to higher economic pressure, $b = 5.33$, $p < .001$, which in turn related to higher parental depressive symptoms, $b = .61$, $p < .05$. Further, higher PSE was associated with a lower parent-child dysfunctional interaction, $b = -.28$, $p < .05$, which in turn was associated with greater child externalizing, $b = .01$, $p < .05$. Contrary to expectation, parental depressive symptoms did not relate to PSE or the parent-child dysfunctional interaction, and the parent-child dysfunctional interaction did not relate to child internalizing. Further, none of the hypothesized indirect pathways were supported among Latinos with the exception of the indirect effect of economic pressure on the parent-child dysfunctional interaction, $b = .14$, $p < .05$.

Acculturation as a Moderator among Latinos

Results from Model 5 showed that acculturation moderated the relationship between economic pressure and PSE, $b = -.21$, $SE = .10$, $p < .05$. To further interpret this significant interaction, I used Preacher, Curran, and Bauer's (2006) computational tool to plot the effects of economic pressure on PSE at different levels of acculturation and to calculate each line's simple slopes for the three acculturation groups. Figure 6 shows the relationship between economic pressure and PSE for the following three acculturation level groups: 1 SD below the mean, the mean, and 1 SD above the mean. The relationship existed for those of average, $b = -.36$, $t(92) = -2.2$, $p < .05$, and high $b = -.60$, $t(92) = 2.93$, $p < .01$, but not low acculturation level, $b = -.12$, $t(92) = .61$, $p = .54$. Acculturation did not moderate the relationship between parental depression and PSE nor between

economic pressure and the parent-child dysfunctional interaction or parental depression and the parent-child dysfunctional interaction. Further analyses were conducted to examine at what level of language (our proxy for acculturation) the relationship between economic pressure and PSE became significant. Results showed that for “Spanish only” parents, this relationship was not significant, $b = -.17$, $t(92) = -.97$, $p = .33$; however, for the “usually Spanish,” $b = -.38$, $t(92) = -2.34$, $p < .05$, “Spanish/English equally,” $b = -.59$, $t(92) = -2.93$, $p < .01$, “usually English,” $b = -.80$, $t(92) = -2.92$, $p < .01$, and “English all the time,” $b = -1.00$, $t(92) = -2.81$, $p < .01$, groups the relationship was significant (Figure 7).

Chapter Five: Discussion

The goal of the current study was to evaluate a modified version of the FSM with an ethnically diverse sample of Early Head Start families, the majority of whom were Latino immigrant families of Mexican origin. This study was the first to examine whether parenting self-efficacy warrants inclusion in the FSM for ethnically diverse parents with children under four. Additionally, this is the first study to examine the original and the modified FSM among Latino parents with young children. Further, this study extended the work of White and colleagues (2015), which examined how acculturation can buffer Latino parents of school age children from the impact of environmental stress on their parenting, by examining acculturation within the FSM for an Early Head Start sample of Latino parents.

Within our overall ethnically diverse sample of EHS families, the modified FSM was well-replicated. PSE was also well-integrated into the FSM, such that economic pressure and maternal depression negatively impacted PSE and the parent-child relationship, which in turn impacted child internalizing and externalizing symptoms. Despite these direct pathways and an indirect pathway linking parental depression to child problem behaviors through PSE and the parent-child relationship, economic pressure did not directly or indirectly relate to child problem behaviors in this young sample. Thus, the current results using the FSM can explain how among low-income ethnically diverse parents, parental depression impacts children's current mental health,

and how economic pressure impacts parental functioning; however, they do not provide an explanatory pathway between economic pressure and current child mental health in infants and toddlers.

Due to the limited number of FSM studies that have included ethnically diverse families with high proportions of Latinos it is difficult to know if this lack of indirect relationship between economic pressure and child socioemotional well-being is consistent or in contrast with previous research. Wadsworth and colleague's (2013) FSM with ethnically diverse low-income parents (22% Latino) of children across development found an indirect effect of economic strain on child mental health symptoms for fathers, but not mothers. Further, White and colleagues (2015) among Mexican origin families found economic pressure indirectly impacted adolescent problem behaviors via parenting; however their model did not include parental depressive symptoms. Additionally, Parke and colleagues (2004) in their ground breaking full-FSM for Mexican American families with school age children did not report whether this indirect relationship was evident.

Similarly, the limited FSM work with early childhood populations has examined FSM indirect effects in pieces or tested the downstream indirect effects only (e.g., parent mental health to child outcomes), rather than evaluating if economic pressure relates to child socioemotional outcomes via maternal mental health and parenting (e.g., Linver et al., 2002; Scaramella et al., 2008; Yeung et al., 2002). However, because the indirect pathway between economic pressure and mental health has been reported previously in samples of European American and African American school age and adolescent youth

(e.g., Conger et al., 1992; Mistry et al., 2002), perhaps the simplest explanation for the lack of indirect associations from economic pressure to infant/toddler mental health is the age of the children. Clear mental health concerns may not have yet emerged or coalesced, and may be difficult to index very early in life given the wide range of typical behavior in this age group. In fact, to index internalizing and externalizing symptoms in the present study required the use of the BITSEA to extend below the standard starting age of the CBCL (18 months). Given associations between economic pressure and parental functioning found in the current study's results, child mental health concerns may indeed emerge as a result of economic pressure as children age.

Further, the current study's results showed that parental depression is indirectly related to child problem behaviors. Thus, it is likely that the variance in parental depression accounted for by economic pressure is not also shared with child problem behaviors. The association between parent and child mental health in this age range may therefore be accounted for by other environmental or non-environmental factors not tested here; for example, these may include interparental relationships or shared genetic risk. It is also possible that incorporating classic parenting behaviors such as warmth and discipline, rather than the parent-child relationship, or child cognitive rather than mental health outcomes, may also more comprehensively capture the family-based factors that connect economic pressure to early child developmental outcomes. Finally, given the current study's findings that FSM relationships may differ for Latino parents with different acculturation levels, the failure to replicate the indirect link between economic

pressure and child socioemotional well-being may be in part due to different processes at play among Latino families, who make up the majority of the current study's sample.

Contrary to expectation, the modified FSM pathways were not well-replicated among Latino families. Although the expected pathways between economic hardship, economic pressure and parental depression, and the parent-child relationship and child externalizing were found, contrary to expectation economic pressure and parental depression did not directly or indirectly relate to the parent-child relationship or PSE (Figure 5). Further the parent-child relationship did not relate to child internalizing symptoms. These results are in-line with some past work with Latino parents that has failed to replicate the direct relationship between economic pressure and the parent-child relationship (White et al., 2015) and maternal depression and the parent-child relationship (Cabrera et al., 2006). One potential explanation is that the modified FSM is missing important variables that may link depressive symptoms to parenting among Latinos. For example, among African American parents Conger and colleagues (2002) failed to replicate the expected direct relationship between caregiver depressive symptoms and disrupted parenting, and instead found that depressive symptoms indirectly impacted parenting through the conflict in the caregiver relationship.

Heterogeneity within the Latino sample may also partially explain the lack of expected pathways within the current study's Latino model. Similar to White and colleague's (2015) findings that high familism buffered against the economic pressure-parenting relationship, in the current study's analyses the relationship between economic pressure and PSE existed for those with medium and high, but not low acculturation (see

Figure 6). More specifically this relationship was buffered for those parents who indicated Spanish only as their language preference rather than any use of English (see Figure 7). The current study's acculturation findings are consistent with White and colleague's (2015) results that showed that among Latino families the relationship between economic pressure and parenting existed only for those with the lowest familism values (e.g., highest acculturation). Additionally, the current study may shed further light on why previous studies with ethnically diverse samples (e.g., Raver, Gershoff, & Aber, 2007) have failed to replicate the association between economic pressure and parenting among Latino parents even when the relationship is present among European American and African American parents. It is possible that failure to disaggregate Latinos by acculturation level is masking the true heterogeneity of the sample.

There are a variety of reasons why the current study's low-acculturated (Spanish only) group may be relatively protected from poor outcomes in the face of economic pressure. Low acculturation often encompasses retention of traditional Latino values of familism, which includes feelings of closeness, reciprocity, and obligation to nuclear and extended family (Calzada, Tamis-LeMonda, & Yoshikawa, 2013; Marín & Marín, 1991). Those with stronger familism are thought to give greater consideration to the impact their behaviors have on their family unit, and be more likely to place their family as a priority before the individual (Calzada et al., 2013; Ebin et al., 2001). Thus, highly familistic parents may prioritize their children's needs over their own even under high levels of economic pressure, ensuring that they do not let outside stressors impact their parenting and children (White et al., 2015). The idea of family reciprocity, which involves an

obligation to support other family members and is central to familism, may also create more financial support and protection from nuclear and extended family (Calzada et al., 2013). Family reciprocity also involves shared child rearing; thus, even when parents are unable to fully pay their bills, they may be able to rely on nuclear and extended family. This in turn may make the impact of economic pressure less damaging to parent's confidence in their role as a parent and ability to meet their children's needs.

Some authors have also argued that less acculturated individuals may be protected in the face of financial stress due to lower expectations; less acculturated individuals may have lower expectations about financial attainment making them in turn less vulnerable to poor mental health outcomes if they do not reach certain markers of financial success or if they experience negative financial events (Escobar et al., 2000). Further, for recent immigrant parents, despite experiencing instances of economic hardship and related economic pressure, their situation may be relatively better than their economic situation was in their country of origin and therefore, economic pressure may not have the same impact on their well-being and parenting behaviors as it does for those Latino parents who are more acculturated to U.S. culture. Additionally, the current study's results showed that when the relationship between economic pressure and PSE was examined by language preference groups (proxy for acculturation) those families who were buffered were those who preferred to use Spanish all the time (rather than some English or a mix of English/Spanish). Those who reported that they preferred to speak only Spanish may be more likely to live, work and socialize in isolated cultural enclaves, and these

communities may create an environment of more community/familial parenting and financial support during stressful times.

Despite these acculturation-group differences, even for more highly acculturated Latino parents it appears that the FSM may operate differently within Latino families of young children as compared to European American families and even Latino families with older children. Since the pathways between parental depression and PSE and parental depression and the parent-child relationship were not significant for any of the acculturation groups, it is possible that for highly acculturated parents economic pressure impacts the parent-child relationship through PSE alone rather than through parental depression or a combination of parental depression and PSE. Thus, for more highly acculturated Latino families, PSE may be a vital process that connects economic pressures to the parent-child relationship and thus potentially to child socioemotional well-being.

Despite our findings that a modified FSM may hold for more highly acculturated Latino families, the question still remains, what is happening among less acculturated families and at what point, if any, are these family processes and child outcomes impacted by economic pressure? Recently immigrated Latino immigrant families identify numerous stressors post-migration including learning a new language, adjusting to changes in their family's configuring or social status, coping with the loss of leaving family members including children behind in their country of origin, and experiencing discrimination (Cabrera, Shannon, & Jolley-Mitchell, 2013; Cervantes et al., 2013; Ko & Perreira, 2010). Recent research by our team with Latino parents and their Head Start age

children has shown that in order for economic hardship to have a problematic impact on child externalizing and internalizing symptoms, it must also be paired with high levels of immigration stress (Mendoza et al., 2016). Thus, it may be the case that among our current sample of Spanish monolingual Latinos, economic pressure alone was not predictive of disruptions to PSE and the parent-child relationship; however economic pressure in addition to other environmental and immigration related stressors may indeed be predictive.

Future Directions

Despite its numerous strengths and contributions to the FSM literature for Latino families as well as ethnically diverse families with young children, this study is not without limitations. The current study's goal was to evaluate a modified FSM within our unique population of ethnically diverse and Latino parents of young children. However, it is important to note that alternative models may equally or even better explain how family processes influence child problem behaviors. Future studies, especially longitudinal studies, would benefit from evaluating the utility of alternative models to better explain how economic pressure impacts child problem behaviors among Latino families of young children.

Additionally, in order to conserve power and for parsimony of our results, the current study used path analysis rather than latent factors. Future FSM studies would benefit from including latent variables to more comprehensively understand how multiple risk factors and multiple measures of parenting may operate collectively within the FSM. Evidence has suggested that different types of environmental risk and parenting

behaviors may work differently within the FSM (White et al., 2015), supporting the need for clarification of exactly which risks and aspects of parenting have the greatest influence on child outcomes. Future studies may also benefit from the addition of interparental relationships to the modified-FSM model as interparental relationships have been shown to be important in past FSM work with ethnically diverse and Latino families (Parke et al., 2004). Further, future studies will benefit from understanding how the current study's modified FSM relates to child cognitive outcomes in addition to child mental health.

Additionally, future multiethnic studies would benefit from larger samples of individual ethnic subgroups, including Latinos, so that they can make comparisons of the modified FSM for Latino versus non-Latino participants. Although a strength of the current study was that it started to evaluate the diversity within Latino samples (by examining language preference), future studies with larger numbers of Latinos would benefit from also examining how family processes work differently among Latinos from differing education levels, countries of origin, levels of familism, and years since immigration. The lack of a direct familism measure presented a limitation to the current study, as I was able to make speculations but not conclusions regarding why the Spanish only group showed protections in the face of economic pressure; thus, future studies that use language as a proxy for acculturation would also benefit from simultaneously measuring familism. A particular strength of the current study was the inclusion of a large portion of Mexican-origin Spanish-speaking Latinos; unfortunately, non-English speakers have been frequently excluded from Latino research (Sciolla et al., 2011).

Future studies would benefit from continuing to include non-English speakers, but also including a greater diversity of Latinos from non-Mexican origins, so that we can decipher how processes may differ among Latinos of differing origins.

Future studies would also benefit from longitudinal design to be able to determine directionality of the relationships within the modified FSM. Authors have shown that the use of longitudinal data can help tease apart the transactional nature of PSE, parenting behaviors and child outcomes (Dumka et al., 2010). Longitudinal studies that begin in early childhood, as this one does, but follow families to assess later mental health symptoms may reveal whether pathways that are in place at these early ages result in downstream mental health concerns. Moreover, future studies would benefit from use of observational data to evaluate parenting and child behaviors, as well as the use of multiple reporters. The inclusion of fathers in future studies will also be beneficial as studies evaluating family processes in Latino families have shown that pathways may differ for mothers versus fathers (e.g., Parke et al., 2004).

Lastly, the current study measured acculturation by assessing parent's language preference. Although language is commonly used as a proxy for acculturation (e.g., Lara et al., 2005) it does not capture the full psychological and social complexity of the acculturation experience. Further, as in the current study language is often used to assess unidirectional acculturation, rather than bicultural acculturation. Due to the noted benefits of biculturalism on health outcomes (e.g., Berry, 2006), future studies would benefit from taking a bidirectional framework and measuring both Spanish and English preference simultaneously or using other acculturation measures that explicitly assess biculturalism

(e.g., Bidimensional Acculturation Scale for Hispanics, Marín & Gamba, 1996).

Additionally, there may be times when low acculturation is beneficial and other times when it presents as a risk. For example, strong familistic families may allow members to have access to shared familial financial resources, which can be beneficial during difficult times; however, this can also create pressure due to the need to financially support the family rather than simply oneself. Therefore, future studies must evaluate which aspects of acculturation are protective and in what situations they may decrease or increase risk. Further, future studies may benefit from assessing multiple aspects of the acculturation experience (e.g., familism values, language, expectations, cultural orientation) to understand what combination of factors is most protective.

Chapter Six: Implications for Policy and Intervention

The current study's results have significant implications for future research, interventions and policy affecting ethnically diverse low-income families. Results suggest that integrating PSE as a target outcome into mental health and parenting interventions for low-income families may prove valuable. Promising research has demonstrated that PSE is modifiable through intervention and that improvements can be maintained over time and have a cascading influence on youth outcomes (e.g., Miller-Heyl, MacPhee, & Fritz, 1998; Tucker et al., 1998). However, it is important to note that the parent-child relationship is most benefited when parents are both knowledgeable about their children's development and confident in their parenting skills, as compared to parents who are high in one of these areas yet low in the other (Conrad et al., 1992). Thus, it remains critical that parenting interventions simultaneously focus on strengthening both parenting skills/knowledge and PSE in order to maximize outcomes. This may involve skill-based parenting interventions that incorporate more opportunities for in-session parent mastery experiences, increased positive feedback surrounding parent's capabilities, and opportunities to see other parents similar to them succeeding in parenting activities. Therefore, targeting PSE may be particularly well-suited to strengths-based and group-format parenting interventions. It is likely that targeting PSE in skill/knowledge based interventions will not only improve parent and child outcomes, but will also improve

intervention retention due to parent's increased self-confidence in their abilities and influence on their children.

Lastly, our data highlighted that more highly acculturated Latino families who are experiencing economic pressure may be at particular risk for poor PSE and associated dysfunctional parent-child relationships. Thus, these families may warrant additional services and parenting supports. Further, in order to ensure that less acculturated families maintain their protections in the face of economic pressure, it is important that strengths-based interventions support recently immigrated and low-accultured parents as they adapt to preserve these advantages.

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Appendix A: Tables

Table 1

Caregiver Demographics

Characteristic	All Families (N=135)		Latino (N=93)	
	Mean (<i>SD</i>)	Range	Mean (<i>SD</i>)	Range
Caregiver age	30.83 (6.40)	18-49	31.20(6.07)	18-44
Family income (\$)	21,645 (15,254)	0- 101,346	21,869 (11,874)	1,316- 69,501
Household size (children/adults)	5.10 (2.10)	2-16	5.35 (1.71)	2-12
	% (n)		% (n)	
Caregiver Sex				
Female	99% (134)		99% (92)	
Caregiver Race/Ethnicity				
Caucasian non-Latino	9.6% (13)			
African/African American	15.6% (21)			
Latino	67.4% (91)		97.8% (91)	
Bi/multi racial/ethnic	5.2% (7)		2.2% (2)	
Other	2.2% (3)			
Caregiver Education				
Less than high school/GED	27% (37)		37% (34)	
High school graduate/GED	27% (36)		33% (30)	
Some college/tech school	26% (35)		16% (15)	
4-year college/masters/doc	17% (25)		14% (13)	
Declined to answer	1% (2)		1% (1)	
Administration Language				
Spanish	52% (70)		75% (70)	
English	48% (65)		25% (23)	
Nativity				
Foreign-born	56% (76)		76% (71)	
U.S.-born	44% (59)		34% (22)	

Note. Two parents self-identified as ethnically Latino but racially Black and therefore, are included in the Latino only group but listed as biracial/ethnic.

Table 2

Descriptives of Key Variables

	Variable Type	All Families			Latino Only		
		Mean	SD	Range	Mean	SD	Range
Economic Hardship	Percent	.19	.27	0-1	.18	.28	0-1
Economic Pressure	Z score	.01	3.50	-5.62-11.42	-.009	3.30	-5.62-9.43
Parent Depressive	Sum	12.13	10.11	0-51	11.21	9.51	0-51
PSE	Sum	39.55	5.02	25-48	40.23	4.56	24-48
P-C Relationship	Sum	19.15	6.14	11-38	18.30	4.14	12-30
Child Externalizing	Proportion	.30	.20	0-.92	.25	.18	.00 - .88
Child Internalizing	Proportion	.15	.12	0-.71	.13	.10	.00 - .57
Acculturation	Mean	---	---	---	.87	1.12	0-4

Note. Parental Depressive = Parental Depressive Symptoms; PSE = Parenting Self-Efficacy; P-C Relationship = Parental Child Relationship.

Table 3

Correlations of Key Variables for All Families and Latinos Only

	1	2	3	4	5	6	7	8	9
1. Economic Hardship	---	.45^{***}	.20[*]	-.13	.15	-.01	.03	.19[*]	.02
2. Economic Pressure	.37^{***}	---	.39^{***}	-.25^{**}	.13	-.121	.08	.12	-.06
3. Parental Depressive	.02	.31^{**}	---	-.33^{***}	.37^{***}	.07	.39^{**}	.33^{***}	.09
4. PSE	.01	-.25^{**}	-.19	---	-.38^{***}	-.16	-.33^{***}	-.26^{***}	-.09
5. P-C Relationship	-.03	.01	.16	-.25[*]	---	.13	.41^{***}	.33^{***}	.12
6. Acculturation	-.11	-.14	.00	-.05	.01	---	.35^{***}	.10	.02
7. Child Externalizing	-.07	.12	.19	-.17	.23[*]	.14	---	.59^{***}	.26^{**}
8. Child Internalizing	.10	.14	.18	-.01	.10	-.11	.50^{***}	---	.03
9. Child Age	-.05	-.13	.03	-.06	.15	-.02	.24[*]	-.07	---

Note. Parental Depressive = Parental Depressive Symptoms; PSE = Parenting Self-Efficacy P-C Relationship = Parental Child Relationship. Correlations above the diagonal are for all families, and correlations below in grey are for Latinos only. ^{*} p <.05; ^{**} p<.01; ^{***} p<.001

Table 4

Effects Decomposition for Modified FSM with All Study Families (Models 1 and 2)

Causal Variable	Endogenous Variables											
	P Depressive			PSE			P-C Dys			Child Extern/Intern		
	b	SE	β	b	SE	β	b	SE	β	b	SE	β
Ecopressure												
Direct	.89^{***}	.25	.31	-.20	.14	-.14	-.02	.16	-.01	---	---	---
Total Indirect	---	---	---	-.12[*]	.05	-.08	.30^{**}	.02	.02	.00/ .00	.00/ .00	.01/ .01
P Depression												
Direct	---	---	---	-.14^{**}	.05	-.27	.20^{**}	.06	.32	---	---	---
Total Indirect	---	---	---	---	---	---	.05[*]	.02	.08	.003[*] / .002[*]	.00/ .00	.03/ .03
PSE												
Direct	---	---	---	---	---	---	-.36^{***}	.10	-.29	---	---	---
Total Indirect	---	---	---	---	---	---	---	---	---	-.01^{**} / -.002^{**}	.00/ .00	-.12/ -.10
P-C Dys												
Direct	---	---	---	---	---	---	---	---	---	.01^{***} / .01^{***}	.00/ .00	.39/ .34

Note. Ecopressure = Economic Pressure; P Depressive = Parent Depressive Symptoms; P-C Dys = Parent-Child Dysfunctional Interaction; PSE = Parenting Self-Efficacy; Child Extern/Intern = Child Externalizing/Internalizing. * p <.05; ** p<.01; *** p<.001

Table 5

Effects Decomposition for a Modified FSM with Latino Families (Models 3 and 4)

Causal Variable	Endogenous Variables											
	P Depressive			PSE			P-C Dys			Child Extern/Intern		
	b	SE	β	b	SE	β	b	SE	β	b	SE	β
Ecopressure												
Direct	.61*	.29	.23	-.25	.18	-.18	-.08	.18	-.05	---	---	---
Total Indirect	---	---	---	-.02	.03	-.02	.14*	.07	.09	.000/ .000	.001/ .000	.01/ .01
P Depression												
Direct	---	---	---	-.04	.05	-.07	.10	.06	.17	---	---	---
Total Indirect	---	---	---	---	---	---	.01	.01	.02	.001/ .000	.001/ .000	.04/ .03
PSE												
Direct	---	---	---	---	---	---	-.28*	.11	-.25	---	---	---
Total Indirect	---	---	---	---	---	---	---	---	---	-.002/ -.001	.001/ .001	-.05/ -.03
P-C Dys												
Direct	---	---	---	---	---	---	---	---	---	.01* / .13	.003/ .10	.20/ .13

Note. Ecopressure = Economic Pressure; P Depressive = Parent Depression Symptoms; P-C Dys = Parent-Child Dysfunctional Relationship; PSE = Parenting Self-Efficacy; Child Extern/Intern = Child Externalizing/Internalizing.

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

Appendix B: Figures

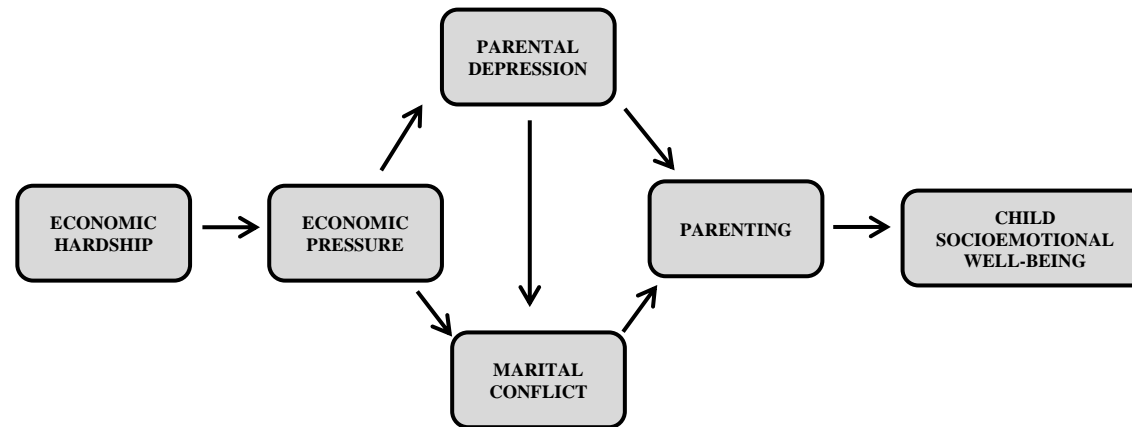


Figure 1. Conceptual model, original FSM. In the original FSM conceptual model, economic hardship is related to child socioemotional well-being through mediated relationships between economic pressure, maternal depression, marital conflict and parenting/the parent-child relationship.

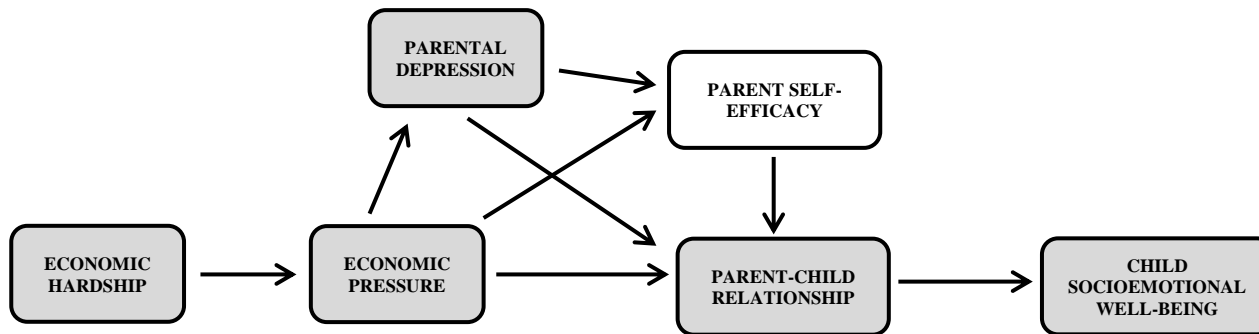


Figure 2. Modified FSM conceptual model. In the modified FSM conceptual model, economic hardship is related to child socioemotional well-being through mediated relationships between economic pressure, maternal depression, parenting self-efficacy (PSE) and the parent-child relationship. PSE is hypothesized as an additional important construct.

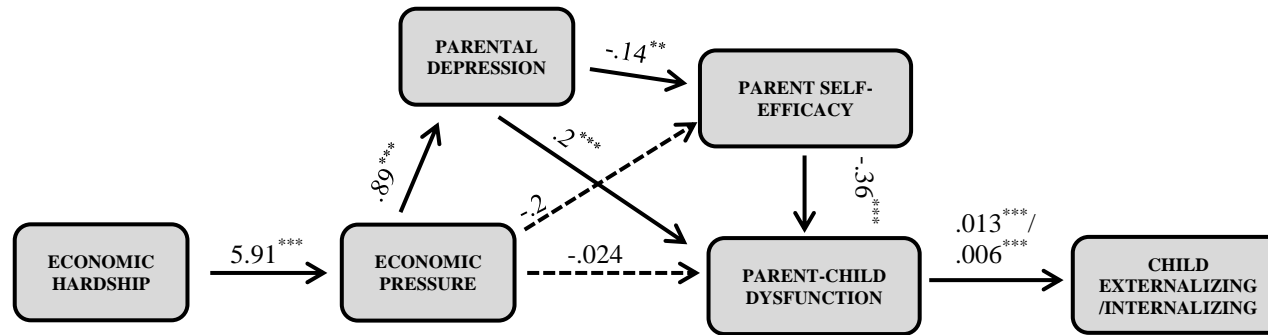


Figure 3. Unstandardized coefficient estimates for the all families (Models 1 and 2). Solid lines indicate significant pathways and dashed lines are for non-significant pathways. ** $p < 0.01$; *** $p < .001$.

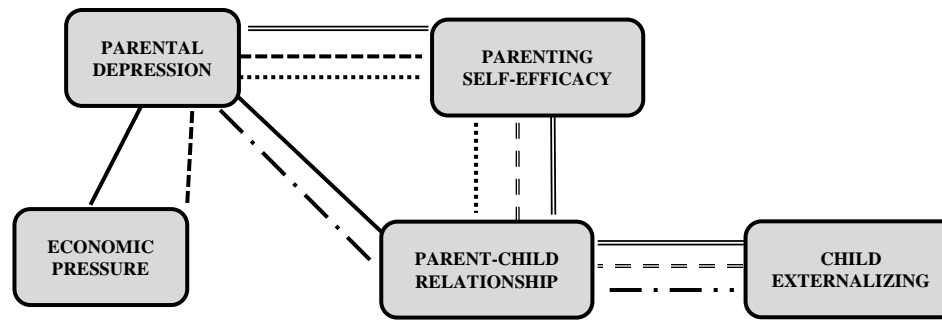


Figure 4. Indirect effects for all families. Each line pattern indicates a separate significant ($p < .05$) indirect effect:

— economic pressure to parent-child relationship via parental depression; ---- economic pressure to PSE via parental depression; - · - parental depression to child externalizing via the parent child relationship; · · · PSE to child externalizing via the parent-child relationship; = = = parental depression to child externalizing via PSE and the parent-child relationship. For child internalizing the same indirect effects existed except parental depression was not indirectly related to child internalizing via the parent-child relationship and PSE.

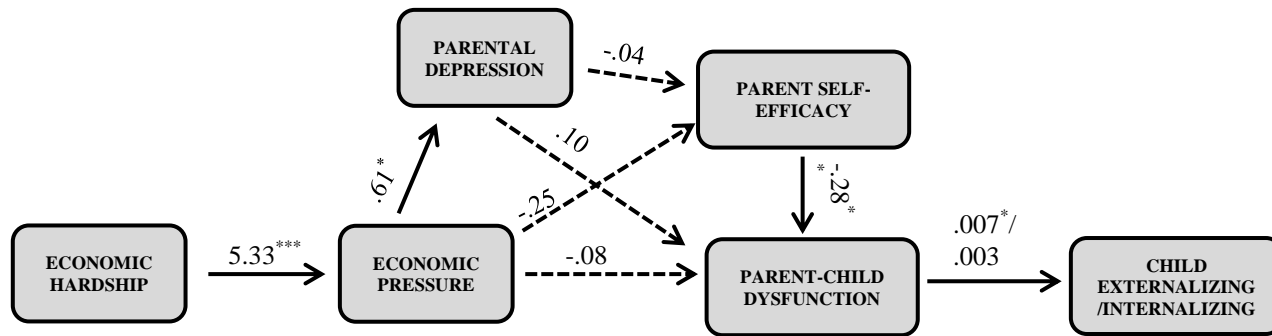


Figure 5. Unstandardized coefficient estimates for Latino families (Models 3 and 4). Solid lines indicate significant pathways and dashed lines are for non-significant pathways. **p < 0.01; ***p < .001

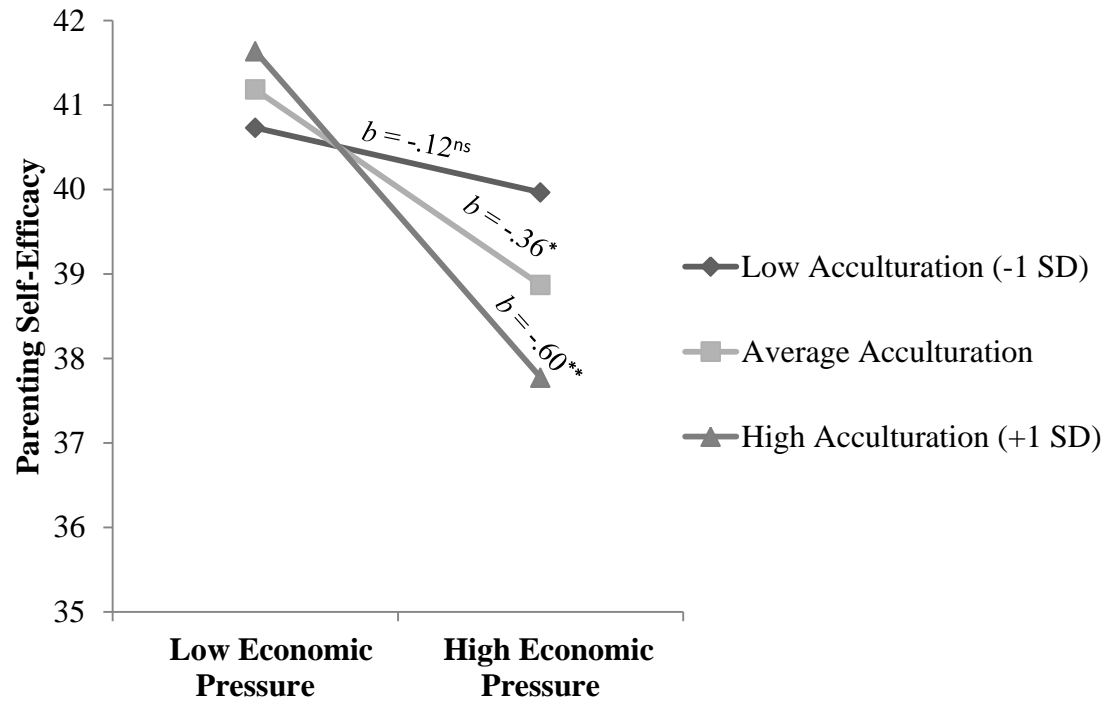


Figure 6. Interaction between economic pressure and acculturation level on parenting self-efficacy in Latino families.

Simple slope coefficients for each line are included. ^{ns} not significant, * $p < .05$, ** $p < 0.01$.

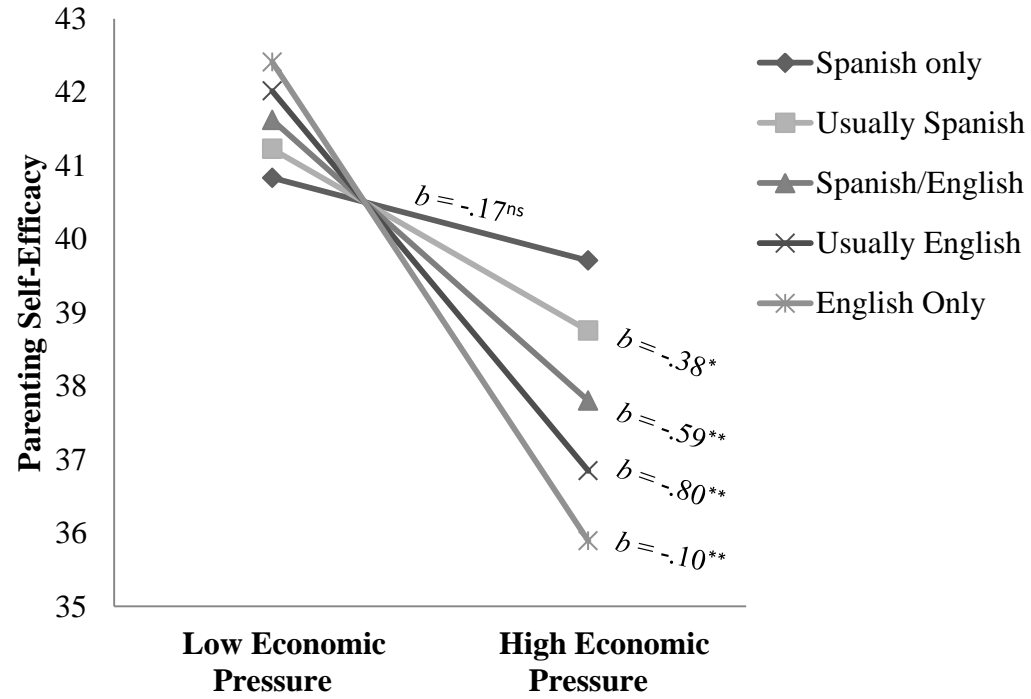


Figure 7. Interaction between economic pressure and acculturation (as measured by language preference) on parenting self-efficacy in Latino families. Simple slope coefficients for each line are included. ^{ns} not significant, * $p < .05$, ** $p < 0.01$.