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RIVERSIDE

Parenting Children With Intellectual Disabilities:
Comparing Three Longitudinal Models of Socio-Economic Status

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in

Education

by

Gazi Ferdousi Begum

June 2013

Dissertation Committee:

Dr. Jan Blacher, Chairperson
Dr. George Marcoulides
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The Dissertation of Gazi Ferdousi Begum is approved:

Committee Chairperson

University of California, Riverside

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DEDICATION

I dedicate this dissertation to my father (Mohammed Aaur Rahman), mother (Lutfun Nahar Begum), and husband (Rakib Azad). My hard-working parents have sacrificed their lives to encourage and support me at every stage of my personal and academic life. Thank you “abbu” (dad) for inspiring me to believe in the power of education from a young age. I know you longed to see this achievement come true. Thank you “ammu” (mom) for teaching me how to be a trailblazer. Your unconditional support was my driving force. I am very much indebted to my husband, whose love and encouragement was instrumental in providing me with the confidence to successfully complete this journey. I hope that this dissertation makes my family proud.

ABSTRACT OF THE DISSERTATION

Parenting Children With Intellectual Disabilities:
Comparing Three Longitudinal Models of Socio-Economic Status

by

Gazi Ferdousi Begum

Doctor of Philosophy, Graduate Program in Education
University of California, Riverside, June 2013
Dr. Jan Blacher, Chairperson

There has been a fourfold increase in the percentage of students with disabilities who do not primarily speak English at home. A majority of these children are raised in socio-economically adverse environments. However, most research on families and intellectual disability (ID) is conducted without regard to ethnic differences or socio-economic differences. Additionally, parenting practices can be affected by parents' psychological well-being. The purpose of this study was to examine the longitudinal parenting practices (both positive and negative) of mothers as well as to investigate the relationship between parenting practices and socio-economic variables (education and income), status variables (Anglo vs. Latino; typical development vs. intellectual disability) and maternal psychological variables (depressive symptoms and optimism). Longitudinal observations were conducted of parenting behavior across six time points. Participants were 219 mothers of children with and without intellectual disabilities. Results indicated that there

was no change in mothers' negative parenting. However, mothers' positive parenting increased during early and middle childhood in children with and without intellectual disabilities. An analysis of three longitudinal models of socio-economic status suggested that mothers' education and family income had a direct and indirect impact on positive parenting. Mothers who reported more education had significantly higher levels of positive parenting when their children were three years old. However, mothers who reported more family income grew at a significantly faster rate in positive parenting over time. There also was preliminary support indicating that mothers with more income were more likely to be members of a class that started off and remained at a higher level of positive parenting over time. The results suggest that parents who are able to engage in positive parenting, in the face of educational and financial deprivation, can potentially protect their children from the deleterious effects of socio-economic adversity.

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Parenting Children With Intellectual Disabilities:

Comparing Three Longitudinal Models of Socio-Economic Status

One of the major trends that have transformed American public education is the increase in school enrollment due to the growth of the Latino population (Pew Hispanic Center, 2006). According to the U.S. Census (U.S. Bureau of Census, 2010), the Latino population grew by 43% percent from 2000 to 2010. As a result, the total number of children enrolled in public schools increased by 4.7 million and Latino children accounted for 64% of that increase (Pew Hispanic Center, 2006). In addition to the increase in Latino children attending schools, there has been a fourfold increase in the percentage of students with disabilities who do not primarily speak English at home (U.S. Department of Education, 2002). Moreover, a majority of individuals with intellectual disabilities are spending their childhood years in socio-economically adverse environments (Emerson et al., 2009). One of the implications of such trends is that there are a growing number of impoverished children with disabilities who face the challenges of accommodating two ethnicities, the difficulties posed by their disability, and the stressors of socio-economic disadvantage.

According to the *Individuals with Disabilities Education Improvement Act* (U.S. Department of Education, 2004) schools are responsible for providing a free and *appropriate* public education for all students. In order to provide an *appropriate* education for Latino children with disabilities, especially those who experience socio-economic disadvantage, one could argue that school professionals should move beyond the immediate context (e.g., classrooms) and support other systems within the ecology of

the student with disabilities. One of the systems that school practitioners can support is the family (Sheridan, Taylor, & Woods, 2008).

However, most research on families and intellectual disability (ID) was conducted without regard to ethnic differences (Blacher, 2001) or socio-economic differences (Emerson, Hatton, Llewellyn, Blacher, & Graham, 2006). Additionally, parenting practices can be affected by the psychological well being of mothers and fathers (Blacher, Neece, & Paczkowski, 2005; Halgunseth, Ispa, & Rudy, 2006; Paczkowski & Baker, 2007; Wearden, Tarrier, Barrowclough, Zastowny, & Rahill, 2000; Taylor, 2011; Taylor, Larsen-Rife, Conger, Widaman, & Cutrona, 2010; Turney, 2011). Understanding the complex relationships between parenting, ethnicity, disability, socio-economic status, and maternal psychological variables has the potential to improve family-school partnerships, which in turn, can enhance the academic, behavioral, and social outcomes for students (Christenson & Sheridan, 2001). The purpose of this paper is twofold: 1) to examine, longitudinally, mothers' positive and negative parenting practices and 2) to investigate the relationship between parenting practices and socio-economic variables (education and income), status variables (Anglo vs. Latino; typical development vs. intellectual disability) and maternal psychological variables (depressive symptoms and optimism).

Parenting Children with Intellectual Disabilities

Over forty years ago, Baumrind (1966, 1971) published seminal articles describing parenting styles. She purported that when studying parenting, it is essential to focus on affiliation and control. Affiliation can be defined as the quality of the parents' emotional responsiveness to the child (e.g., warmth, sensitivity, acceptance). Control can

be defined as the degree to which parents' place demands and restrictions on their child (Baumrind, 1971; 1991). Based on these two dimensions, she described four parenting styles. Authoritative parents (i.e., high in both affiliation and control) set high standards and impose controls, but they are also warm and responsive. Authoritarian parents (i.e., low on affiliation, but high in control) set rules without explaining why they are good rules and are also more distant from their children. Permissive parents (i.e., high in affiliation, but low in control) are warm and loving, but undemanding. Indifferent or uninvolved parents (i.e., low in both affiliation and control) do little more than provide their children with basic essentials (e.g., food and shelter) (Baumrind, 1971, 1989, 1991). The parenting styles proposed by Baumrind have been validated in recent research in predominantly European American families with typically developing children (Nelson, Padilla-Walker, Christensen, Evans, & Carroll, 2011). However, these traditional parenting categories may not fully capture the parenting styles in ethnically diverse families and/or families of children with intellectual disabilities.

Therefore, one area of interest in the parenting literature is examining parenting children with intellectual disabilities. Research has established that parenting practices can impact children with disabilities even after controlling for child cognitive level (Aran, Shaley, Biran, & Gross-Tsur, 2007). According to Denham et al. (2000), parenting had the greatest impact for children already displaying deviant developmental trajectories. Therefore, parental strategies may be particularly influential for children who are vulnerable or at-risk (Aran, Shaley, Biran, & Gross-Tsur, 2007).

Negative Parenting

Negative Affect. In the disability literature, one mechanism through which negative affect is displayed is expressed emotion (EE). Research on EE developed out of studies investigating the impact of family members on patients with schizophrenia. Originally, EE was defined as the amount of emotion displayed by family members or the emotional climate of the home. It included five dimensions including criticism, hostility, warmth, positive comments, and emotional-over-involvement (Laghezza, Mazzeschi, Di Riso, Chessa, & Buratta, 2010; Wearden, et al., 2000). However, in an early study of EE and relapse rates in adults with schizophrenia, Brown, Birley, and Wing (1972) found that neither warmth nor positive comments were related to relapse and hostility was highly correlated with criticism. Therefore, the crucial indicators of EE were criticism and emotional over-involvement. The criticism dimension was designed to measure negativity expressed about the individual with the disability, and as such, is more aligned with negative affect. The emotional over-involvement dimension was designed to measure extreme over-protection, and as such, is more aligned with intrusiveness (Wearden, et al., 2000).

EE is a good proxy for parenting behaviors (Hastings, Daley, Burns, & Beck, 2006). Several studies have used EE to investigate the role of family factors in the trajectory and outcome of conditions affecting children and adolescents. To measure EE, the majority of these studies have used the Five Minute Speech Sample (FMSS), in which parents are asked to describe who their child is and how their relationship is with their child (Laghezza et al., 2010; Wearden, et al., 2000). According to Laghezza et al.'s

(2010) review of the literature on EE, parents of children with intellectual disabilities displayed high levels of EE. In particular, they concluded that 30-60% of parents presented with high EE and 20-40% showed high criticism.

Beyond criticism, negative affect may be manifested in other behaviors such as inconsistent disciplinary practices, arguing, physical and verbal punishment, privilege loss, and guilt induction used by parents. This is how Kaiser, McBurnett, and Piffner (2011) defined their negative parenting factor when they examined the relationship between ADHD severity, parenting, and children's social functioning. Their multiple regression analyses supported a main effect and mediational model for these constructs. In particular, maternal negative parenting served as an independent predictor of children's social skills. Their analyses also confirmed the requirements for mediation: 1) ADHD severity was related to children's social skills and maternal negative parenting; 2) Maternal negative parenting was related to children's social skills; and 3) The relation between ADHD severity and children's social skills diminished after the inclusion of maternal negative parenting. Therefore, mediational effects were largely supported such that maternal negative parenting significantly mediated the relation between ADHD severity and children's social skills.

Intrusiveness. Parents of children with intellectual disabilities have been consistently reported as more intrusive, consistent with the authoritarian parenting style (Cuskelly, Jobling, Gilmore, & Glenn, 2006). In particular, parents of children with intellectual disabilities have been shown to issue more commands and directives (Floyd & Phillippe, 1993). For example, Costigan, Floyd, Harter, and McClintock (1997)

compared families of children with and without intellectual disabilities. The study consisted of home assessments, including a 10-minute problem solving discussion. Findings indicated that children with intellectual disabilities had difficulty with the problem-solving discussion. In particular, they demonstrated less active problem solving and less assertive behavior compared to their ages mates in the comparison group and their siblings. For parents of children with disabilities, this situation was associated with the use of more commands and directives. In a later study, Floyd, Harer, and Costigan (2004) again examined problem solving discussions within 162 two-parent families with a target child that had mild or moderate intellectual disabilities, chronic illness, or typical development. Consistent with their previous findings, the authors showed that parents were more directive and persistent with their child with an intellectual disability.

As mentioned previously, the emotional over-involvement component of EE (i.e., over protection) is related to the idea of intrusiveness. According to Laghezza et al. (2010), 10-60% of parents of children with intellectual disabilities displayed high levels of emotional over-involvement. For example, compared to mothers of children with typical development, mothers of children with spina bifida were reported to be more over-protective as assessed with questionnaire and observational methods. In particular, parents appeared to exhibit more over-protection in families where children had less cognitive ability (Holmbeck et al., 2002). According to Sanders (2006), extreme protection can shelter children with disabilities from the normal consequences of everyday behaviors and the realities of life, which can cause lowered self-esteem and underachievement, as well as, failure to reach one's full potential. In support of this idea,

Aran, et al. (2007) reported that for children with cerebral palsy, the autonomy granting parenting style was related to better psychosocial, physical, and familial outcomes. The authors posited that parents who allowed their children to have autonomy during childhood may prepare them for more independent living as adults.

Positive Parenting

Positive Affect. Research has shown that parents of children with intellectual disabilities display less positive affect than parents of children with typical development (Fenning, Baker, Baker, & Crnic, 2007). For example, Floyd and Phillippe (1993) reported that there were lower rates of positive reciprocity between children with intellectual disabilities and their parents than between typically developing children and their parents. The authors suggested that since mothers of children with intellectual disabilities are constantly directing and managing their children's activities, it has the cost of reducing opportunities for more playful exchanges. However, positive affect is important in the parent-child relationship. For instance with children with ADHD, maternal positive parenting (defined as communication and shared activities, use of praise and positive reinforcement, and caring/admiration/respect between parent and child) was associated with higher social functioning for children (Kaiser et al., 2011).

Sensitivity. Parents of children with intellectual disabilities have been shown to adapt their interactions, language, and play to match the developmental needs of their children (Childress, 2011). Oftentimes, the family is able to adapt to the child's cognitive and social skills deficits without resorting to coercive or aversive behaviors (Costigan et al., 1997; Floyd & Phillippe, 1993). According to Buchanan (2009), mothers observed

how their child's disability affected play, and understood their role in adapting experiences to support their child's play. For example, parents of children with physical impairments tended to engage their children in tickling games because they were aware that this was an activity that their child could participate in and be successful in (Cress, Moskal, & Hoffman, 2008).

One mechanism through which sensitivity may be displayed is through maternal scaffolding. In effective scaffolding, mothers provide the optimal level of support necessary to allow her child to be successful beyond what the child would have been able to achieve alone. Scaffolding may include a mother's ability to motivate her child, break down and teach a task in a structured manner, provide emotional support, demonstrate sensitivity and acceptance, and share emotion with her child. Maternal scaffolding has been shown to be a better predictor of social skills than child factors (e.g., behavior problems, regulation) for children with intellectual disabilities (Baker, Fenning, Crnic, Baker, & Blacher, 2007).

Cognitive Stimulation. There are inconsistent findings in the literature regarding whether parents of children with intellectual disabilities provide more cognitive stimulation than parents of children with typical development. There are some within group and between group analyses that show that parents of children with disabilities provide cognitive stimulation, perhaps more so, than parents of children with typical development. For example, Guralnick, Neville, Hammond, and Connor (2008) observed mothers in the lab during free play and a teaching task with their young children with developmental delays. Observations lasted 15 to 20 minutes in length and were followed

by interviews conducted with the mothers. Results revealed that mothers used statements, explanations, and suggestions to engage their children. On the teaching task, mothers used more directive statements and more communications per turn to facilitate learning.

With regard to the between group finding, parenting behavior was compared between parents of children (between the ages of 8 and 18) with and without autism spectrum disorder (ASD). Specifically, participants were 205 parents of a child with ASD and 325 parents of a child with typical development. Using the Parental Behavior Scale-Short Form, results suggested that parents of children with ASD were more explicitly stimulating their children's development than parents of typically developing children. For example, parents reported explaining to their child that people have different opinions, as well as helping their child deal with problems in a different way when something did not work (Lambrechts, Leeuwen, Boonen, Maes, & Noens, 2011).

In contrast, a study conducted by Cuskelly et al. (2006) involved observations of parental behaviors with their children with (n= 39) or without (n=43) intellectual disabilities. Children were presented with an attractively wrapped gift, but told not to touch it until the experimenter returned. Coding of maternal behaviors suggested that parents of typically developing children engaged in significantly more occasions of giving the child a choice about his/her behavior, reassuring the child about the experimenters' return, and focusing on the target more (i.e., they commented about the gift more) than parents of children with intellectual disabilities. However, the authors noted that very few parents in either group used the task as an opportunity to explicitly teach effective self-regulation strategies.

(Lack of) Detachment. There is limited research dedicated to (lack of) detachment in families of children with intellectual disabilities. However, Fenning et al. (2007) investigated parenting behavior and child behavior among families of children with borderline intellectual functioning (n=29) in comparison to families of children with (n=46) and without (n=142) developmental delays. Their findings indicated that mothers of children with borderline intelligence did not differ from the other mothers in terms of maternal negativity or intrusiveness. However, the mothers of children with borderline intelligence were less likely to exhibit a style of positive engagement (defined as positive affect, sensitivity, cognitive stimulation, and lack of detachment) than either mothers of typically developing children or mothers of children with developmental delays. Based on these findings, the authors suggested that for children with borderline intelligence, parent-child interaction patterns are marked by low maternal involvement rather than hostility or conflict.

More recently, longitudinal observations were conducted of parenting behavior across child ages 3, 4, and 5 years using structured and unstructured activities. Participants were 183 mothers of children with developmental delays (i.e., autism spectrum disorders, cerebral palsy, Down syndrome, or undifferentiated developmental delay), or typical cognitive development. The authors reported that positive parenting (defined as positive affect, sensitivity, cognitive stimulation, and lack of detachment) was higher in the unstructured activity (i.e., free play) and especially higher for children with Down syndrome. However, the authors also noted that more educated mothers were more

positive with their children in the structured activity (i.e., teaching task) regardless of diagnostic group (Blacher, Baker, & Kaladjian, 2012).

Studies of positive parenting in general, and engaged parenting in particular, are important because having unresponsive parents can have a negative impact on children's adjustment. For example, lack of maternal positive engagement can place children at heightened risk for emotional and behavioral dysregulation, as well as problematic social functioning (Fenning et al., 2007). According to Warren and Brady (2007) exposure to responsive parenting styles throughout early childhood have a variety of benefits for children with disabilities including language, cognitive, and socio-emotional development.

In sum, parents of children with intellectual disabilities engage in aspects of negative parenting, such as negative affect and intrusiveness. However, they also engage in aspects of positive parenting such as being sensitive. Research has shown that parents of children with intellectual disabilities display less positive affect than parents of children with typical development. There are inconsistent findings in the literature regarding cognitive stimulation. There also is limited research on detachment in families of children with intellectual disabilities.

Correlates of Parenting

The family is a social unit that is comprised of individuals, as well as a web of interconnected relationships between individuals that are embedded in a larger socio-cultural context. Therefore, each relationship within the family can be affected by the characteristics and psychological well being of the individuals involved in the

relationship, as well as broader environmental variables. In terms of child characteristics, there is ample evidence relating parenting experiences to the behavioral problems of children with intellectual disabilities (Bostrom, Broberg, & Bodin, 2011; Eisenhower, Baker, & Blacher, 2005; Embregts, Grimbél de Bois, & Graef, 2010; Mitchell & Hauser-Cram, 2010). Much of this research specifically links the parent-child relationship to maternal stress (Gerstein et al., 2009; Griffith et al., 2010; Hastings et al., 2006; Mitchell & Hauser-Cram, 2010).

However, beyond behavioral problems and maternal stress, there is growing research on how socio-economic variables (Emerson, Einfeld, et al., 2011; Emerson et al., 2009; Emerson & Hatton, 2009; Emerson, Madden et al., 2011; Halgunseth et al., 2006; Knight, Virgin, & Roosa, 1994; McLoyd, 1990, 1998; Medora, Wilson, & Larson, 2001; Raviv, Kessenich, & Morrison, 2004; Reese, 2002; Simpkins, Bouffard, & Dearing 2009), maternal psychological adjustment (Blacher et al., 2005; Halgunseth et al., 2006; Paczkowski & Baker, 2007; Wearden et al., 2000; Taylor, 2011; Taylor et al., 2010; Turney, 2011) and ethnicity (Bamaca-Colbert, Gayles, & Lara, 2011; Calzada & Eyberg, 2002; Figueroa-Mosely, Ramey, Keltner, & Lanzi, 2006; Fischer, Harvey, & Driscoll, 2009; Halgunseth et al., 2006; Hill, Bush, & Roosa, 2003; Ispa et al., 2004; Livas-Dlott et al., 2010; Moreno, 1997; Perez & Fox, 2008; Schulze, Harwood, Schoelmerich, & Leyendecker, 2002) may impact parenting. Ultimately, a better understanding of the relationships among ethnicity, socio-economic circumstances, and psychological resources of mothers of children with and without intellectual disabilities is required before truly effective interventions can be developed.

Socio-economic Status (SES)

Socio-economic status and parenting children with typical development. SES is consistently mentioned in the literature regarding group differences in parenting. A closer look at the research reveals that SES is related to aspects of negative as well as positive parenting. With regard to negative affect, Halgunseth, et al. (2006) suggested that SES is a strong predictor of the use of physical and verbal punishment. When SES was controlled, there were no differences between Latino and Euro-American parents on either (Medora et al., 2001).

In addition to negative parenting, SES plays a role in positive parenting. For example, the relationship between maternal sensitivity and children's outcomes is complex. A deeper examination of the literature reveals that maternal sensitivity is a mediating variable between SES and children's adjustment. For example, Raviv et al. (2004) examined the mechanisms through which SES influenced three-year old children's language abilities. Maternal sensitivity was coded from semi-structured mother-child play sessions. Their findings suggested that maternal sensitivity was a mediator in the relation between SES and children's expressive language, verbal comprehension, and receptive verbal conceptual skills. This is consistent with research showing that unsafe living conditions and stress caused by economic hardship can lead to more insensitive parenting, which is in turn associated with less favorable emotional and academic outcomes (McLoyd, 1990; 1998).

Similarly, cognitive stimulation is related to a family's SES. In a longitudinal study with African American, European American, and Latino adolescents, Simpkins et

al. (2006) reported that parents who provided high cognitive stimulation had the highest family income and parental education. They also were more likely to be European American. With regard to interactive behaviors that stimulate cognition, the differences in the amount of modeling between Euro-American and Mexican-American mothers disappeared when SES was controlled (Laosa, 1980).

Socio-economic status and parenting children with intellectual disabilities.

There is a well-established link between socio-economic position and the prevalence of intellectual disabilities (Fujiura 1998; Fujiura & Yamaki 2000; Leonard & Wen 2002; Emerson 2004; Emerson & Durvasula 2005; Leonard et al., 2005). The relationship between socio-economic adversity and intellectual disabilities has been extensively examined by Emerson and his colleagues (Emerson, 2003; 2004; Emerson, Einfeld, et al., 2011; Emerson et al., 2009; Emerson & Hatton, 2007; Emerson, Madden et al., 2011). Collectively, their studies largely support the role of economic adversity in putting families at risk, even more so, than aspects of disability or ethnicity. For example, Emerson et al. (2011) did a secondary analysis of data from the Longitudinal Study of Australian Children. Their findings indicated that the prevalence of conduct problems in children with cognitive delays were associated with several factors including lower rates of parental engagement/warmth and inconsistent/harsh parenting, as well as living in a poor income neighborhood and living in a more deprived neighborhood.

For children with developmental disabilities, lower SES mothers were more restrictive and focused on obedience whereas higher SES mothers were warmer and focused on reciprocity (Glidden, Bamberger, Turek, & Hill, 2010). According to

Emerson et al. (2011), exposure to socio-economic disadvantage may account for 20-50% of the risk of poorer mental/physical health among children with intellectual disabilities and most or all of the risk of poorer mental health among mothers of children with intellectual disabilities.

Depression

Depression in mothers of children with typical development. Maternal depressive symptoms can have a direct or indirect negative impact on typically developing children's adjustment. With regard to a direct impact, depressive symptoms in mothers has been linked to insecure attachment (Campbell et al., 2004) and to increased behavioral problems in children (Chazan-Cohen et al., 2009; Harvey, Metcalfe, Herbert, & Fanton, 2011). However, parenting also can be the mechanism through which depressive symptoms have an adverse effect on children's outcomes. For example, in a sample of 112 African American mothers and their premature infants, maternal sensitivity mediated the relation between psychosocial risk (i.e., depression, stress, and self-efficacy) and attachment security (Candelaria, Teti, & Black, 2011).

Research has shown that depressive symptoms in mothers may impact positive, as well as negative parenting styles. For example, Hoffman, Crnic, and Baker (2006) investigated the role of depressive symptoms on maternal scaffolding with preschool children. Their findings indicated that depressed mothers were less effective at providing emotional, motivational, and technical scaffolding. In African American families, mothers' emotional support of their adolescents was highest when they reported support from family, lower levels of depression, and higher self-esteem (Taylor, 2011). For

typically developing children with behavioral problems, depressive symptoms in mothers predicted parenting strategies such as negativity (Heller & Baker, 2000) and criticism (Bolton et al., 2003).

Depression in mothers of children with intellectual disabilities. Having a child with an intellectual disability can strain family functioning, job and career choices, and personal activities (Meirsschaut, Roeyers, & Warreyn, 2010). Therefore, it is not surprising that there are high levels of mental health problems in parents of children with disabilities, especially mothers (Hastings & Brown, 2002, Lee, 2009). Specifically, several studies have shown that mothers of children with disabilities reported increased symptoms of depression (Meirsschaut et al., 2010; Olsson & Hwang, 2001; 2002; Smith, Innocenti, Boyce, & Smith, 1993; White & Hastings, 2004).

Why would mothers of children with intellectual disabilities report more symptoms of depression than mothers of typically developing children? One probable reason is the challenging behavioral problems. In particular, mothers with longer current depressive episodes were more likely to have children with internalizing and externalizing behavioral problems (Foster et al., 2008). It is likely that mothers of children with disabilities may not be prepared to manage the increased behavioral problems, which results in feelings of inadequacy and negativity. According to Olsson and Hwang (2001), having a child with intellectual disabilities increases the risk of provoking feelings of loss, helplessness, and failure. As a result, there is a greater risk of the repeated activation of dysfunctional depressive schemas.

Optimism

Optimism in mothers of children with typical development. Optimism can be defined as a relatively stable dispositional characteristic that reflects generalized positive expectancies about the future. In other words, optimists have a favorable outlook on life and believe that good things will happen. In order to maintain such positive beliefs, optimists rely on a sense of personal capability, as well as a positive evaluation of the social contexts and its ability to provide necessary support. As a result, optimistic people are more likely to display continued effort in the face of adversity and stress (Olason & Roger, 2001; Scheier & Carver, 1985; Karademas, 2006). According to Coplan, Hastings, Lagace-Sequin, and Moulton (2002), authoritative parents can be described as “developmental optimists” crediting their child for their positive behavior and holding them least responsible for their socially incompetent actions. However, authoritarian parents can be described as “developmental pessimists” attributing their child’s positive behaviors as externally caused and negative behaviors as internally caused.

Optimism impacts the psychological well being and parenting experiences in mothers of typically developing children. For example, mothers who are optimistic were more likely to provide emotional support (Taylor, 2011), as well as child management (Taylor et al., 2010). Maternal optimism may be particularly important for dealing with challenging child characteristics. For example, Koenig, Barry, and Kochanska (2010) reported that having an optimistic outlook was a helpful trait when rearing difficult, anger-prone children. Specifically, mothers’ optimism was related to positive parenting practices (i.e., responsiveness and affectively positive interactions). In addition to child

characteristics, optimism is important for coping with stressful circumstances. For instance, optimism moderated the relation between economic stress and maternal internalizing symptoms (i.e., depression and anxiety). The authors suggested that although economic stress is related to internalizing symptoms in mothers, those who are optimistic display greater resilience to its negative effects (Taylor et al., 2010).

Optimism in mothers of children with intellectual disabilities. Along with typically developing children, optimism is related to parenting experiences in mothers of children with intellectual disabilities (Bayat, 2007; Larson, 1998; Meirsschaut et al., 2010). For example, using a sample of 32 parents interviewed with the Parents' Perception Interview, Heiman (2002) reported that parents expressed the importance of maintaining an optimistic outlook along with a realistic view and acceptance of their situation. Using a battery of questionnaires (e.g, Life Orientation Test, Psychological Well-Being Scale, etc) in a sample of 119 mothers of children with autism spectrum disorders, Ekas, Lickenbrock and Whitman (2010) reported that higher levels of optimism were associated with increased positive outcomes (increased positive affect, life satisfaction, and psychological well-being) and decreased negative outcomes (decreased depression, parenting stress, and negative affect). In addition, Baker, Blacher, and Olsson (2005) examined 214 families with a three-year-old child with and without developmental delays. Their findings indicated that optimism (categorized as low, moderate, or high) was an important dispositional variable when children had moderate to high behavioral problems. Specifically, optimism moderated the child behavioral problems-maternal stress relationship. When children had low levels of behavioral

problems, differences in optimism were not related to maternal stress. However, when children had moderate to high levels of behavioral problems, mothers who were classified as high in optimism reported the least stress while mothers who were classified as low in optimism reported the most stress.

There are other studies that attest to the benefits of positive beliefs or attributions for mothers of children with intellectual disabilities. For example, Greenberg, Seltzer, Hong, and Orsmond (2006) reported a positive relationship between criticism and behavioral problems in adolescents or adults with autism (50% of whom had an intellectual disability), and pessimism in mothers. With regard to parenting stress, positive beliefs were found to have an independent main effect on parenting stress above and beyond the effect of child behavior problems for both typically developing children and children with developmental delays (Paczkowski & Baker, 2008). According to Hyman and Oliver (2001), parental attributions are important in maintaining an optimistic outlook. Using 86 caregivers of individuals with Cornelia de Lange syndrome, the authors suggested that attributions regarding self-injurious behaviors (i.e. believing that the behavior was not intentional) may preserve parents' positive view of themselves and their child, as well as retain their optimism.

Ethnicity

The relationship between ethnicity and parenting has been investigated in various ethnic populations including, but not limited to, Latinos (Calzada, Fernandez, & Cortes, 2010; Fischer et al., 2009), Asians (Cote & Bornstein, 2009; Stewart, Zaman, & Dar (2006), African Americans (Calzada, Brotman, Huang, Chava, & Kingston, 2009;

Pagano, Hirsch, Deutch, & McAdams, 2003), Europeans (Bornstein, Tamis-LeMonda, Pecheux, & Rahn, 1991) and Middle Easterns (Yaman, Mesman, Ijzendoorn, Bakermans-Kranenburg, & Linting, 2010). However, the focus of the present paper is on the Latino population, a group where ethnicity is paramount in the socialization process of children (Fuller & Coll, 2010; Harrison, Wilson, Pine, Chan & Buriel, 1990).

Socio-economic status in Latina mothers of children with and without intellectual disabilities. SES is often manifested in the neighborhoods in which families reside, which in turn, influences parental intrusiveness. Some immigrant Latino families live in low-income working class neighborhoods that are viewed as relatively dangerous by its inhabitants (Reese, 2002). In Latino families, gangs and gang-related activities (i.e., drugs, theft, sexual violence, and homicide) are major challenges in parenting children with typical development (Cruz-Santiago & Ramirez-Garcia, 2011). As a result, Latina mothers of adolescents reported that strictness is a strategy for protecting their children from the harmful social influences that they may encounter in the U.S. (Reese, 2002; Wagner et al., 2008).

For Latino parents, the family is the only way to teach ethnic values. Home is seen as a source of support and safety, while *la calk* (literally meaning the street, but referring more generally to outside of the home) is a source of danger to children. As a result, parents living in the U.S. may enforce rules and restrictions on extra familial contact more than they would if they lived in their countries of origin (Halgunseth et al., 2006; Reese, 2002). For example, in the remote small towns of Mexico, parents reported having few of the aforementioned concerns. They knew the families and children with

whom their children were associated, and were confident that neighbors would keep an eye out for their children (Reese, 2002). Therefore, the perceived level of danger in risky neighborhoods may be the driving force behind Latino parental control with typically developing adolescents. Such high levels of parental control may be protective for Latino adolescents living in low-income urban neighborhoods (Knight et al., 1994; Reese, 2002).

For Latina mothers of children with intellectual disabilities, socio-economic adversity may be a barrier for access and utilization of appropriate services. According to Neely-Barnes and Marcenko (2004), many of the significant predictors of family impact for Latino families were related to services including therapies, special education services, and a person other than the parent who coordinates care. Therefore, Latina mothers who experience socio-economic disadvantage may have less access to services such as respite care because of financial, linguistic, or ethnic barriers (Eisenhower & Blacher, 2006). Even when services are secured, Latina mothers from an impoverished background may feel less connected to the disability service systems. For example, Shapiro, Monzo, Rueda, Gomez, and Blacher (2004) used focus groups to examine the beliefs of 16 low-income Latina mothers of adolescents and young adults with intellectual disabilities about their relationships with the educational and service delivery systems. Their results indicated that mothers adopted a position of “alienated advocacy” in relation to their child’s educational and service needs. In particular, the participating mothers did not enter the educational and service delivery systems with the intention of confrontation. Instead, they hoped for caring relationships in conjunction with personal

interest for the well being of their children. However, the feelings of indifference and contempt combined with poor communication led these mothers to experience a cultural disconnect with service providers. Without appropriate services, it may be difficult for Latina mothers to engage in developmentally appropriate parenting that meets the needs of their children with intellectual disabilities.

Depression in Latina mothers of children with and without intellectual disabilities. Latino parents express a wide range of needs and supports related to raising a child with an intellectual disability. In particular, 52% of Mexican and Puerto Rican parents reported a definite need for help on the Family Needs Survey (in previous studies, the average on the Family Needs Survey was 25%) (Bailey et al., 1999). Not surprisingly, Latina mothers of children with intellectual disabilities reported more depressive symptoms compared to their Anglo counterparts (Blacher & McIntyre, 2006; Eisenhower & Blacher, 2006). For example, using a sample of 148 Latina mothers of children with intellectual disabilities, Blacher, Shapiro, Lopez, Diaz, and Fusco (1997) reported that almost half of the participants scored above a commonly used cut-off (i.e. 16) on the Center for Epidemiologic Studies Depression Scale (CES-D).

For Latina mothers of children with intellectual disabilities, familial and personal factors may contribute to increased depressive symptomology. For example, Magana, Seltzer, and Krauss (2004) examined depressive symptoms and family functioning in Puerto Rican and non-Latina white mothers of adults with intellectual disabilities. A subscale on the Questionnaire on Resources and Stress was used to measure family problems. The questionnaire included items such as the following: “Other members of

the family have to do without things because of (son or daughter with intellectual disability).” Depressive symptoms were measured by the CES-D. Results revealed that not only did Puerto Rican mothers report more family problems, but the relationship between family problems and maternal depressive symptoms was stronger for Puerto Rican mothers than for non-Latina white mothers. The authors proposed that the personal well being of Puerto Rican mothers may be more influenced by family functioning. In other words, Puerto Rican mothers appeared to be more emotionally vulnerable to how the family was affected by caring for a member with an intellectual disability. In addition, previous research has shown that family cohesion was a predictor of depressive symptoms in Latina mothers. A lack of family cohesion suggested a weak or absent connection to family members. Latina mothers who did not receive help from family members (perhaps due to having a child with an intellectual disability) may have felt the additional caretaking burden, which in turn made them more vulnerable to depression (Blacher, Lopez, Shapiro, and Fusco, 1997).

In addition to familial factors, there may be personal factors that contributed to increased depressive symptoms among Latina mothers of children with intellectual disabilities. For example, Bailey et al. (1999) noted that Latina mothers were prone to face barriers in establishing friendships and informal support networks, especially with regard to raising a child with a disability. Research has shown that Latina mothers of children with intellectual disabilities who have greater contact with English-speaking people (e.g., as friends) reported fewer symptoms of depression (Blacher et al., 1997).

Currently, there is no research that directly investigates how depressive symptoms may impact parenting in Latina mothers of children with intellectual disabilities. However, there is some literature that examines how Latina mothers' depressive symptoms influence parenting with typically developing children. For example among Dominican and Puerto Rican mothers, depressive symptoms were positively correlated with the use of negative verbal feedback and modeling during a teaching task. The authors interpreted this finding by suggesting that depressed mothers may be more negative about their child's ability to complete a task. They may also have less tolerance and patience with their child. Therefore, their teaching behaviors reflected their low self-esteem and sense that their child, like them, was incapable of "doing things right" (Planos, Zayas, & Busch-Rossnagel, 1997). With pre-adolescent children, symptoms of depression were linked to higher levels of maternal and paternal hostile parenting (i.e., rejection, control, and withdrawal) in both European and Mexican American families (Parke et al., 2004).

Optimism in Latina mothers of children with and without intellectual disabilities. Although there is very little research exploring optimism and ethnicity, there is some research linking ethnicity to positive impact. Positive impact refers to the positive perceptions of having a child with a disability including positive aspects of the child with the disability, increased sensitivity, opportunities to learn, and changed perspective on life (Taunt & Hastings, 2002). Research has shown that Latina mothers of children with intellectual disabilities reported more positive impact than Anglo mothers of children with intellectual disabilities (Blacher & Baker, 2007; Blacher & McIntyre, 2006). Baker

and Blacher (2004) suggested that positive impact may be related more to personality and ethnic variables than to child characteristics (i.e., behavioral problems). Further, Mexican-origin mothers of children with disabilities reported hopeful visions and personal growth, despite the limitation in their daily lives due to caring for a child with a disability. By embracing this paradox, these mothers overcame obstacles, sustained their maternal work, and maintained an optimistic perspective. Even when setbacks were encountered, mothers evidenced resiliency by returning to a position of optimism about their child's future (Larson, 1998).

There are two probable reasons why Latina mothers may report more positive impact, and possibly more optimism, about raising a child with an intellectual disability. First, it is likely that their attributions focus on an external locus of control (Blacher & McIntyre, 2006). For example, Chavira, Lopez, Blacher, and Shapiro (2000) interviewed 129 Latina mothers of children with developmental delays regarding incidents in which their child exhibited a behavioral problem. They reported that mothers' attributions of control or responsibility were related to their responses. In particular, mothers who attributed high responsibility to the child were significantly more likely to report negative emotions (anger and frustrations) and harsh/aggressive behavioral reactions than mothers who attributed low responsibility. However, most Latina mothers viewed their child as not being responsible for their behavioral problems. The tendency to attribute children's behavioral problems to external sources may protect mothers' beliefs that they are able to influence their children's behaviors. If behavioral problems were attributed to internal

causes, then parents would have little hope of being able to intervene effectively (Coplan et al., 2002; Mills & Rubin, 1992).

In addition to attribution, religion may be an important factor for Latina mothers of children with intellectual disabilities. According to Skinner, Correa, Skinner, and Bailey (2001), 68% of Latinos in their sample believed that their child was a blessing sent from God as a sign of their worthiness as parents. For families of children with disabilities, religion is a way to make sense of having a child with a disability (Lee, 2009; Poston & Turnbull, 2004). Using a sample of 119 mothers of children with autism spectrum disorders, Ekas, Whitman, and Shovers (2009) reported that higher scores on religious beliefs and spirituality were associated with higher psychological well being including self-esteem, positive affect, and optimism.

In sum, socio-economic variables, maternal psychological variables, and ethnicity may impact parenting practices among families of children with and without intellectual disabilities. Specifically, parenting behaviors often serve as a mediator between SES and children's adjustment. When SES is controlled, ethnic group differences in parenting behaviors is sometimes eliminated. Further, SES has been linked to increased negative parenting and decreased positive parenting, as well as poorer mental/physical health for children with intellectual disabilities and their mothers. With regard to depression, research has shown that depressive symptoms can have a negative impact on parenting behaviors. Unfortunately, parents of children with intellectual disabilities report more symptoms of depression than parents of children with typical development. One probable

reason for this finding may be the increased behavioral problems in children with intellectual disabilities.

Similar to the findings on depression, research on optimism has shown that maternal optimism can influence parenting of children with and without intellectual disabilities. With typically developing children, maternal optimism is associated with positive affect, sensitivity, and a lack of detachment. With children with intellectual disabilities, maternal optimism also is related to increased positive affect and decreased negative affect. Ethnicity is an important factor for parenting children with and without intellectual disabilities, especially in relation to socio-economic and psychological characteristics. Specifically, SES affects parenting practices (e.g., intrusiveness) in Latina mothers of typically developing children. Furthermore, socio-economic adversity may limit access and utilization of appropriate services, which in turn, impact the parenting practices of Latina mothers of children with intellectual disabilities.

In addition, Latina mothers of children with intellectual disabilities report more depressive symptoms than Anglo mothers of children with intellectual disabilities. It is likely that familial factors (e.g., family problems) and personal factors (i.e., lack of informal support from friends) contribute to the increased depressive symptoms among Latina mothers. Although there is very limited research that examines optimism and parenting with Latina mothers of children with intellectual disabilities, there is accumulating evidence that Latina mothers report more positive impact. Latina mothers may report more positive impact, as possibly more optimism, because of their attributions and religion.

Limitations of Previous Research and Contributions of Present Study

Although there is a breadth of literature examining parenting in children with intellectual disabilities, there is limited (although growing) research examining parenting practices from a longitudinal perspective. Additionally, research on parenting children with intellectual disabilities has largely focused on the relationship between parenting and children's behavioral problems (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker, McIntyre, Blacher, Crnic, & Edelbrock, 2003; Beck, Daley, Hastings, & Stevenson, 2004; Floyd et al., 2004; Greenberg et al., 2006; Hastings & Brown, 2002) or the relationship between parenting and maternal stress (Baker, Heller, & Henker, 2000; Gerstein, Crnic, Blacher, & Baker, 2009; Griffith, Hastings, Nash, & Hill, 2010; Hastings, Daley, Burns, & Beck, 2006; Mitchell & Hauser-Cram, 2010). However, the current literature review highlights the importance of investigating socio-economic characteristics, maternal psychological variables, and ethnicity as potential contributors to parenting children with and without intellectual disabilities. Based on the aforementioned limitations, the present study contributes to the literature by examining the longitudinal trajectories of positive and negative parenting and its' relationship to socio-economic variables (education and income), status variables (Anglo vs. Latino; typical development vs. intellectual disability) and maternal psychological variables (depressive symptoms and optimism).

Method

Participants

Participants were drawn from a larger, multi-site longitudinal study (N= 260) of young children from ages 3 to 15 years old. The goal of the larger study was to examine family, school, and child contributions to the emergence of behavior disorders in target children with and without intellectual disabilities. The sample was drawn from Central Pennsylvania (1 university) and Southern California (2 universities). Targets in the typically developing (TD) group were recruited at age 3 from preschools and day care programs. Targets in the intellectual disability (ID) group were recruited at age 3 through community agencies that provided services for people with developmental disabilities. School and agency personnel mailed brochures describing the study to families. Interested parents called the research center to obtain information about the study, and if they were still interested, were set up with a home visit. General selection criteria were that children had to be between 30 and 40 months of age. In the control group of typically developing children, targets were excluded if they had a disability of any kind or premature birth. In the group of children with intellectual disabilities, targets were excluded if they could not walk, had autism, or IQ below 40.

When the children were 3 years olds, they were administered the Bayley Scales of Infant Development II (Bayley, 1993). Children classified as having an intellectual disability had a cognitive assessment score of 84 or lower. Children categorized as TD had a cognitive assessment score of 85 or higher. Thus, children whose cognitive assessment scores fell in the borderline (IQ=71-84), mild (IQ=55-70), or moderate

(IQ=40-54) range were included in the present study (DSM-IV-TR, American Psychiatric Association, 2000). Although cognitive functioning is less stable for younger children than older children (Kamphaus, 2005), there was a subsequent assessment when children were 5 years old, using both a cognitive assessment and an adaptive behavior assessment. The chi-square was used to test if there was a difference between the frequency of 0's (typically developing) and 1's (intellectual disability) in the 3 and 5 year assessments. No statistically significant difference was found between age 3 and age 5 (chi-square (1)= 2.01, $p > .05$). Therefore, disability status at age 3 and the label "intellectual disability" (rather than "developmental delay") was chosen.

The present study was comprised of all families (N= 219) for whom data were available on the measures of interest; this constituted 84% of the original sample. There were no statistically significant differences between participants included in the present study and participants excluded from the present study on child (mean age at testing, gender, mean Bayley scores) or mother/family (marital status, age, employment, education, income) characteristics. Of the 219 families, 112 families had a child with an intellectual disability and 107 families had a child with typical development. In the combined sample, 60% of the targets were boys and 40% of the targets were girls. Child age at initial intake averaged to be 35.09 months (SD= 2.89). The majority of children (93%) were in good or excellent health. Most mothers (84%) were married because recruitment had initially focused on intact families. Mothers averaged about 15 years of school and 56% of them reported working outside of the home. Many of the families

(74%) reported having more than one child. Approximately 48% of families had an annual income of more than \$50,000.

In the present study, there were 168 Anglo families and 51 Latino families. All of the Latino families were English-speaking (a proxy for acculturation) and provided their social security numbers (a proxy for immigration status). Given the lack of variance in these variables, it was assumed that the Latino families in the present sample were a fairly acculturated, legal group. Table 1 shows demographic characteristics by ethnic status. As seen from the table, the two groups did not differ on any of the child attributes. On mother characteristics, there was a statistically significant difference between the Anglo and Latina mothers with regard to education ($t(217) = 4.54, p < .001$); specifically Anglo mothers reported completing more grades (15.3) than Latina mothers (13.5). On the family characteristics, there was a statistically significant difference between Anglo and Latina mothers with regard to family income ($\chi^2(1) = 3.90, p < .05$); specifically more Anglo families reported having an annual income of \$50,000 or higher (52.9%) than Latino families (36.7%).

Confidence intervals were also calculated for the demographic variables. The confidence intervals can be interpreted as follows: 1) When the confidence interval contains a 0, then there is insufficient evidence to conclude whether the Anglo sample or the Latino sample is higher on a particular characteristic; 2) When the confidence interval contains only positive values, then the Latino sample is higher on a particular characteristic than the Anglo sample; and 3) When the confidence interval contains only

negative values, then the Latino sample is lower on a particular characteristic than the Anglo sample (Agresti & Finlay, 2009).

As seen from the table, the confidence intervals for child (mean age at testing, gender, and health), mother (marital status, employment) and family (more than one child) variables contain a 0, and therefore, there is insufficient evidence to conclude whether the Anglo sample or the Latino sample is higher on any of these characteristics. However, the confidence intervals for mothers' education and family income contain only negative values, which suggests that the Latino sample is lower on mothers' education and family income than the Anglo sample. As a result, the present study will include these variables in all of the analyses. Both mother's education and family income will be used as covariates because there was only a moderate correlation between these variables (Pearson Correlation $r=.51$) and previous studies have frequently used both as proxies for SES (Moreno, 1997; Pelchat, Bisson, & Saucier, 2003; Raviv et al., 2004; & Simpkins et al., 2004).

Procedures

All procedures were approved by the Institutional Review Board at the three universities. The data examined in the present study were obtained in two ways: home visits and questionnaire packets. Prior to the initial visit, parents completed a telephone interview with staff and received information about informed consent; consent forms were then mailed to parents interested in the study. At the initial home assessment, two research assistants visited the family to obtain consent and to administer the Bayley II to the child. Subsequent home visits included observations and semi-structured interviews;

these occurred within a month of the child's birthday. Home visits were typically scheduled in the late afternoon or evening, allowing for observation of interactions around dinnertime. There were also questionnaire packets (which included a demographic form, the CES-D, and the LOT-R) completed by parents at each home visit.

Ethnic status was determined by the ethnicity that mothers' indicated on the demographic form. This method of grouping participants into the Anglo or Latino ethnic group is consistent with the literature. Specifically, none of the studies reviewed in the introduction provided an extensive investigation of ethnic constructs (i.e., a more culturally specific and nuanced description of ethnicity) related to the Latino population. Almost all of the studies (Isapa et al., 2004; Medora et al., 2001; Nadeem, Romor, Sigman, Lefkowitz, & Au, 2007; Padilla-Walker, Bean, & Hsieh, 2011; Simpkins et al., 2000) used a demographic form to group participants into their respective ethnic group, except Harwood, Schoelmerich, Schulze, and Gonzalez (1999) which included a sample recruited from San Juan, Puerto Rico. A minority of the researchers (Hill et al., 2003, Isapa et al., 2004; Moreno, 1997) also examined acculturation. However, both Hill et al. (2003) and Moreno (1997) used language preference as a proxy for level of acculturation. Education and income also was determined using the demographic form. Specifically, mothers' education was measured with the number of grades completed. Income was measured by placing families into one of three groups including: less than \$35,000, \$35,001 to \$70,000, and over \$75,001.

Measures

Bayley Scales of Infant Development Second Edition (Bayley II). The Bayley II is a widely used measure of mental and motor development in children ages 1 to 42 months. The 36-month Bayley II was administered with the mother present. Only the mental development items were administered. Example activities included discriminating and recalling geometric patterns and color identification, as well as repeating three number sequences. The Mental Development Index (MDI) is normed with a mean of 100 and a standard deviation (SD) of 15. Bayley reported high short-term test-retest reliability (0.91) for the MDI. With children ages 36-42 months, the MDI correlated well with the Full Scale IQ of the Wechsler Preschool and Primary Scale of Intelligence-Revised, $r = .73$ (Bayley, 1993).

Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D is a 20-item self-report scale designed to measure depressive symptoms of mood, feelings, and perceptions. Example items include: 'I felt lonely' and 'I had crying spells'. Participants were asked to rate each item based on how they felt or behaved during the past week. A likert scale ranging from 0 (rarely or none of the time (less than 1 day)) to 3 (most or all of the time (5-7 days)) is used to rate each item. The scoring range is from 0 to 60, with higher scores indicating greater depressive symptoms. A total score of 16 or greater designates the clinical range for depressive symptomatology. The CES-D has been shown to have high internal consistency (.90) and acceptable test-retest reliability (.70), as well as convergent and divergent validity (Radloff, 1977). It has also been used with Latino and Anglo respondents (Blacher, Lopez et al., 1997; Blacher, Shapiro et al.,

1997; Magana, Seltzer, Krauss, 2004; Magana, Seltzer, Krauss, Rubert, & Szapocznik, 2002). The CES-D that was used for the present analyses was completed by mothers when their children were 3 years old. Cronbach's alpha (.89) was computed because this measure has a uni-dimensional construct.

Life Orientation Test-Revised (LOT-R). The LOT-R is a 10-item (six items and four filler items) self-report measure of dispositional optimism (i.e., the expectation of good outcomes in one's life). Example items include: 'In uncertain situations, I usually expect the best' and 'Overall, I expect more good things to happen to me than bad.' Participants were asked to rate each item on a likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). There are three negatively worded items that are reversed scored. The scoring range is from 0 to 24, with higher scores indicating more optimism. The LOT-R has been shown to have acceptable internal consistency (.78) and test-retest reliability (.79), as well as convergent and divergent validity (Scheier & Carver, 1985; Scheier, Carver, & Bridges, 1994). The LOT-R that was used for the present analyses was completed by mothers when their children were 3 years old. Cronbach's alpha was (.81) was computed because this measure has a uni-dimensional construct. The correlation between the CES-D and LOT-R was moderate, Pearson Correlation $r = -.40$.

Parenting. Maternal parenting behaviors were coded using the Parent Child Interaction Rating System (PCIRS), which evaluates six dimensions of parenting. *Positive affect* was reflected in tone of voice (e.g., warm tone of voice), facial expressions, and affectionate acts. *Negative affect* was reflected in tone of voice (e.g., harsh tone of voice), facial expressions, and hostile acts. *Intrusiveness* was characterized

as the extent to which the mother inserted her own goals and agendas (adult-centered) upon the child without regard for what the child was doing. *Sensitivity* was reflected in mother's awareness of what the child was doing and adjusting her behavior to take the child's behavior into consideration. *Detachment* was represented by the extent to which the mother was uninvolved and unresponsive toward the child. *Cognitive stimulation* was reflected by the extent to which the mother intellectually stimulated the child at his/her appropriate developmental level (e.g., providing explanations). Each of the dimensions were rated on a five point likert scale ranging from 1 (not at all characteristic) to 5 (highly or predominately characteristic). The ratings considered both the frequency and intensity of the affect or behavior (Belsky, Crnic, & Woodward, 1995).

The PCIRS has been used with typically developing children (Aber, Belsky, Slade, & Crnic, 1999; Belsky, Crnic, & Gable, 1995; Belsky, Hsieh, & Crnic, 1998; Crnic, Gaze, & Hoffman, 2005; Park, Belsky, Putnam, & Crnic, 1997) and children with intellectual disabilities (Fenning et al., 2007). Analyses conducted by various researchers (Aber et al., 1999; Belsky et al., 1998; Fenning et al., 2007) have shown that the six dimensions of parenting yield two broader dimensions. Specifically, positive parenting is comprised of positive affect, sensitivity, cognitive stimulation, and a lack of detachment, whereas negative parenting is comprised of negative affect and intrusiveness. For the present study, Cronbach's alpha for positive parenting was .90 (age 3), .89 (age 4), .85 (age 5), .86 (age 6), .82 (age 7), and .86 (age 8), with an average alpha of .86. For negative parenting, Cronbach's alpha was .68 (age 3), .85 (age 4), .84 (age 5), .80 (age 6), .67 (age 7), and .65 (age 8), with an average alpha of .75.

Originally, there was a total of eight time points (i.e. home visits). During the 3, 3.5, 4, and 4.5 year home visits, the total observation time was 90 minutes with six 10-minute observation periods separated by five minute rating periods. During the 5 year home visits, the total observation time was 60 minutes with four 10-minute observation periods separated by five minute rating periods. During the 6, 7, and 8 year home visits, the total observation time was 30 minutes with two 10-minute observation periods separated by five minute rating periods. In order to increase reliability, the ratings were averaged for each home visit.

For the present sample, data for the 3.5 and 4.5 year time point were omitted. Using a repeated measures ANOVA with sphericity assumed, the mean scores for positive parenting ($F(2, 358) = 1.72, p > .05$) and negative parenting ($F(2, 358) = .13, p > .05$) at ages 3, 3.5, and 4 were not statistically different. However, using a repeated measures ANOVA with a Greenhouse-Geisser correction, the mean scores for positive parenting ($F(1.92, 347.58) = 87.70, p < .001$) at ages 4, 4.5, and 5 were statistically different. Examination of pairwise comparisons revealed that there was a significant difference between mean scores at age 4 (mean = 10.56) and age 4.5 (mean = 8.40; $p < .001$) and between mean scores at age 4.5 (mean = 8.40) and age 5 (mean = 10.31; $p < .001$). However, there was no significant difference between mean score at age 4 (mean = 10.56) and age 5 (mean = 10.31; $p > .05$). Although there was a difference between ages 4 and 4.5 and between ages 4.5 and 5, age 4.5 will be removed because it does not affect the model's ability to determine the trajectory of positive parenting.

Similarly, using a repeated measures ANOVA with a Greenhouse-Geisser correction, the mean scores for negative parenting ($F(1.91, 345.55) = 6.34, p < .01$) at ages 4, 4.5, and 5 were statistically different. Examination of pairwise comparisons revealed that there was a significant difference between mean scores at age 4 (mean = 3.07) and age 5 (mean = 3.31; $p < .01$) and between mean scores age 4.5 (mean = 3.10) and age 5 (mean = 3.31; $p < .05$). However, there was no significant difference between mean scores at age 4 (mean = 3.07) and age 4.5 (mean = 3.10; $p > .05$), and as a result, age 4.5 is not necessary in the negative parenting model. Therefore, the present study will use data from six time points (i.e., across child age 3, 4, 5, 6, 7, and 8).

For each time point, there were different observers. Prior to obtaining observational data, observers were trained on videotapes of home observations and attended live home observations with an experienced coder. Reliability was established when there was 70% exact agreement with the primary coder and 95% agreement within one scale point. After obtaining reliability, individual observers conducted home observations. A primary coder was designated at each site (California and Pennsylvania) to maintain reliability within and across project sites. The kappa coefficient for within-site reliability was .61 at California and .59 for Pennsylvania. The kappa coefficient for across-site reliability was .64 (Fenning et al., 2007). Table 2 and Table 3 display the correlation matrix for positive and negative parenting, respectively. As seen from the tables, the correlations for positive parenting range from .24 to .56. The correlations for negative parenting range from .18 to .58. It is important to consider the variations across

time points (i.e., different observation times, different observers) when interpreting these correlations.

Data Analyses

Unconditional Latent Curve Analysis

The present study used a structural equation modeling (SEM) framework to address the research questions, instead of the analysis of variance (ANOVA) or analysis of covariance (ANCOVA) frameworks because some of the assumptions in the latter methodology (e.g., sphericity-assuming the same pattern of correlations for repeated measurements) are often not met in social science research. The particular SEM framework that was used is latent curve analysis (LCA) because this methodology investigates change over time based on repeated measurements. LCA is sometimes referred to in the literature as latent growth modeling or latent change analysis. In LCA, there are two mechanisms that can be used-the Intercept and Slope (IS) model and the Level and Shape (LS) model. The main assumption in the IS model is that change occurs in a specific manner (e.g., linear). However, this assumption is often not true in the social sciences. The LS model does not a priori assume a particular trajectory, and therefore, was used for the present study (Marcoulides & Heck, 2009; Raykov & Marcoulides, 2006).

All of the models in the present study were fit to the data using Mplus. Full information maximum likelihood (FIML) was used to deal with missing data (Muthén & Muthén, 2006). In LCA, variable means and their development are taken into consideration along with variable variances and covariances. Therefore, a mean structure

analysis was conducted by fitting the models to a covariance/mean matrix. In addition, including means results in more data points to which the model can be fit. To evaluate the fit of the models, the chi-square goodness of fit test, the comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA) will be used. Models that are a good fit to the data should have: 1) a chi-square goodness of fit value that is not significant in order to not reject the model, 2) a CFI greater than .90, and 3) an RMSEA below .05 with the left endpoint of its 90% confidence interval being smaller than .05. Since the chi-square test is sensitive to sample size, emphasis was placed on the other fit criteria (Marcoulides & Heck, 2009; Raykov & Marcoulides, 2006, 2008).

The unconditional (because there are no predictors) LS model is illustrated in Figure 1. As seen from the figure, there are both squares and circles. Observed variables are represented as squares and refer to variables that were measured directly. Latent variables are represented as circles and refer to variables that were not measured directly. In the present study, each observed variable corresponds to Y_1 = mothers' positive or negative parenting at age 3, Y_2 = mothers' positive or negative parenting at age 4, Y_3 = mothers' positive or negative parenting at age 5, Y_4 = mothers' positive or negative parenting at age 6, Y_5 = mothers' positive or negative parenting at age 7, and Y_6 = mothers' positive or negative parenting at age 8. Each of the observed variables $Y_1 - Y_6$ loads onto two latent variables- the Level Factor and the Shape factor. In addition to the observed and latent variables, error terms (i.e., residual terms) were included in the model to represent the amount of variation in the variable that was due to measurement error. It is usually assumed that there is no covariance structure between the residuals. One-

headed arrows on each of the variables represented the error terms (Raykov & Marcoulides, 2006).

In the LS model, the latent variable known as the Level factor represented the individuals' true scores at the beginning of the study. Each of the loadings on the Level factor were fixed to 1, which allowed it to be interpreted as the initial true status. The mean value on the Level factor was examined to determine the average initial starting position. The variance on the Level factor also was examined to determine whether there were significant individual differences in starting position. The correlation (represented by a two-headed arrow) between the Level and Shape factors denoted their degree of overlap or whether initial levels of parenting were related to change in parenting over time (Marcoulides & Heck, 2009; Raykov & Marcoulides, 2006).

The latent variable known as the Shape factor represented the individuals' scores of true change across the repeated measurements. The loading on the first time point (Y_1) was fixed to 0 (represented by a dotted line) and the loading on the last time point (Y_6) was fixed to 1. This allowed the Shape factor to be interpreted as the change factor (i.e., reflecting the increasing or decreasing shape of the change process). The arrows indicating the rest of the loadings on the Shape factor represented the proportion of change relative to the total change occurring over all of the time points. Allowing these loadings to be free represents the change that occurred between the first and each of the later time points. The mean value on the Shape factor was examined to determine whether overall there was significant growth or decline in parenting from the initial mean value on the Level factor. The variance on the Shape factor also was examined to

determine whether there were significant individual differences in the amount of change in positive or negative parenting across the six time points (Marcoulides & Heck, 2009; Raykov & Marcoulides, 2006).

It is important to note that it was possible to compute the average growth or decline of scores at each time point by taking the value of the Shape factor loading at that age and multiplying it by the overall mean value of the Shape factor. In addition, this value was added to the mean value of the Level factor to provide an estimated average score (e.g., on positive parenting) at any given age (Raykov & Marcoulides, 2006).

Mothers' Education and Family Income as Covariates

As mentioned in the literature review, SES was frequently cited in the literature as a contributor to group differences in parenting. For the present study, mothers' education and family income were used as observed covariates (and proxies for SES), instead of indicators of the latent variable SES. This decision was made for several reasons. First for positive parenting, the mean correlation between mothers' education and the observed time points was $r = .27$; the mean correlation between family income and the observed time points was $r = .24$; and the mean correlation between SES and the observed time points was $r = .13$ (Table 4). Therefore, the correlation was higher between the observed variables (i.e., mothers' education and family income) and positive parenting than between the latent variable (i.e., SES) and positive parenting. Second for negative parenting, the mean correlation between mothers' education and the observed time points was $r = -.12$; the mean correlation between family income and the observed time points was $r = -.11$; and the mean correlation between SES and the observed time points was $r = -.03$

(Table 5). Therefore, the correlation was higher between the observed variables (i.e., mothers' education and family income) and negative parenting than between the latent variable (i.e., SES) and negative parenting. Third, Raykov and Marcoulides (2006) recommended using multiple indicators (preferably more than two) for a latent variable in order to provide a complete and reliable picture of the construct.

The effects of mothers' education and family income on parenting can be conceptualized in different ways. Some authors proposed that mothers' education and family income can have a direct impact on parenting (Fenning et al., 2007; Moreno, 1997; Raviv et al., 2004; & Simpkins et al. 2006). All of the aforementioned authors measured education and income as continuous variables. For example, education is measured as the number of grades completed in Fenning et al., 2007. However, other authors proposed that education and income are categorical (Ispa et al., 2004; Pelchat et al., 2003). For example, education is categorized as low education (uncompleted secondary education or less), medium education (completed secondary education), and higher education (college degree or higher) in Pelchat et al. (2003). Imposing a category on education and income implies that these variables have an indirect impact on parenting (i.e., mothers' education impacts parenting via the categories of low, medium, and high). It is also possible that mothers' education and family income can have both a direct as well as indirect impact on parenting. The present study considered all three of these possibilities.

Conditional Latent Curve Analysis

When predictors are entered into the model, it is referred to as a conditional LS model (Raykov & Marcoulides, 2006). The conditional model in Figure 2 was an extension of the model in Figure 1. As seen from the figure, mothers' education and family income directly predicted the Level and Shape factors. As mentioned previously, mothers' education was measured with the number of grades completed. Income was measured by placing families into one of three groups including: less than \$35,000, \$35,001 to \$70,000, and over \$75,001.

In addition, ethnic status, disability status at age 3, maternal depressive symptoms, and maternal optimism were added to the model as predictors of the Level and Shape factors. Ethnic status was a binary variable with 3 indicating Anglo mothers and 4 indicating Latina mothers. Disability status at age 3 also was a binary variable with 0 indicating children with typical development and 1 indicating children with intellectual disabilities. Maternal symptoms of depression was measured using the total score on the CES-D. Maternal optimism was measured using the total score on the LOT-R. To evaluate model fit, the same fit criteria was used as mentioned previously. The path from each predictor to the Level and Shape factors was interpreted like regression coefficients (i.e., the expected change in the outcome variable based upon change in the predictor variable) (Raykov & Marcoulides, 2006). To ensure adequacy of sample size and power, the procedures outlined in Muthen and Muthen (2002) were followed.

Latent Class Analysis

As mentioned previously, some authors have chosen to categorize mothers' education and family income. However, there are different ways to categorize variables. Whereas Pelchat et al. (2003) divided education into uncompleted secondary education or less, completed secondary education, or college degree or higher, Ispa et al. (2004) divided education into less than high school, high school, or more than high school. Rather than imposing categorizations that may be specific to the data, the present study used latent class analysis.

Latent class analysis is sometimes referred to in the literature as mixture models or mixture analysis. The present analysis was an unconditional latent class analysis. It is used when group membership on particular variables (i.e., in this case, mothers' education and family income) were not known beforehand. When group membership is inferred from the data, the groups are referred to as latent classes. The assumption is that the population from which the sample was taken consisted of a certain number of latent classes of unknown size. Each latent class has its own distribution and corresponding mean. The distributions of the latent classes are not observed; however, the mixture of the distributions is observed. Latent class analysis seeks to determine the presence and nature of the latent classes.

To conduct a latent class analysis, the Bayesian Information Criterion (BIC) index was used to examine the fit of the proposed latent class models in comparison to the fit of the model with just one class. The BIC values for the competing models (i.e., models with one class, two classes, three classes, etc.) was examined and the model with the

smallest BIC value was considered the preferred model. When the preferred model was determined, the average posterior probabilities were evaluated to determine classification accuracy (Marcoulides & Heck, 2009).

Latent Growth Mixture Models

Latent growth mixture models (LGMM) posit that the Level and Shape factors are different for different classes of individuals. In LGMM, there are two basic parts. Part I is latent curve analysis using continuous and normally distributed y variables (as described in the previous section “unconditional latent curve analysis.”) Part II extends the latent curve analysis to include latent class analysis. (It is important to note that the number of classes were determined beforehand as described in the previous section “latent class analysis.”) In LGMM, each latent class may have a different change model and these latent classes are related to covariates. The factor means are especially of interest because they will likely change across the latent classes and result in different trajectories. Therefore, LGMM uses both continuous and categorical latent variables. The Level and Shape factors are continuous latent variables and the trajectory classes are categorical latent variables (Marcoulides & Heck, 2009).

Figure 3 illustrates the LGMM with mothers’ education and family income having an indirect impact on the Level and Shape factors (i.e., through the latent class c). The arrows from mothers’ education and family income to c related these socio-economic variables to class membership. The arrows from c to the Level and Shape factors indicated that the means for initial status and change rate may vary depending on the latent class (Marcoulides & Heck, 2009).

Figure 4 illustrates the proposed LGMM with mothers' education and family income having a direct as well as indirect impact on the Level and Shape factors. The only additional arrows were from mothers' education and family income to the Level and Shape factors, which indicated that these socio-demographic variables may directly affect mothers' initial status and/or change rate. In addition to the socio-economic variables, for both figures there were arrows from ethnic status, disability status at age 3, maternal depressive symptoms, and maternal optimism to the Level and Shape factors indicating that these variables may also impact mothers' initial status and/or change rate in positive and/or negative parenting (Marcoulides & Heck, 2009). To determine which model (direct impact, indirect impact, or direct and indirect impact of mothers' education and family income) was the best fit to the data, Akaike Information Criterion (AIC) was used (Raykov & Marcoulides, 2008).

Based on the aforementioned review of the literature, the following research questions were examined. First, to what extent do mothers' parenting behaviors change across early and middle childhood? Second, to what extent can the level and trajectories of parenting be directly predicted by socio-economic variables (mothers' education and family income), status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Third, to what extent can the level and trajectories of parenting be indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Fourth, to what extent can the level and

trajectories of parenting be directly and indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Fifth, which model of SES (direct impact, indirect impact, or direct and indirect impact of mothers' education and family income) is the best fit to the data?

Results

Positive Parenting

To what extent do mothers' positive parenting behaviors change across early and middle childhood? The descriptive statistics for mothers' positive parenting are presented in Table 6 and displayed in Figure 5. Since the trajectory of positive parenting changes over time, unconditional latent curve analyses was performed. However, before interpreting specific parameter estimates, it is important to examine overall model fit. The unconditional Level and Shape model for mothers' positive parenting provided the following fit criteria: $\chi^2 = (13, N=219) = 26.74$ $p < .05$; CFI = .96; and RMSEA = .07 (.03; .11). Based on the aforementioned guidelines, the unconditional model for mothers' positive parenting fit the data well. (It is important to note that the first time point (positive parenting at age 3) and the second time point (positive parenting at age 4) were both fixed to 0, due to the lack of statistically significant difference between these means. Therefore, all subsequent analyses used age 4 (instead of age 3) as the starting position for mothers' positive parenting.

Table 7 displays the factor loading parameter estimates as well as the mean value parameter estimates for the Level and Shape factors. With respect to mothers' positive parenting, the mean value for the Level factor (i.e., the average initial starting position) was $\mu_y = 10.67$, $t = 60.15$, $p < .001$. The variance on the Level factor was $s^2 = 3.94$, $t = 8.23$, $p < .001$, which reflected significant individual differences in starting position. The relationship between the Level and Shape factors was not significant (covariance = $-.53$, $t = -1.35$, $p = .177$; correlation = $-.25$, $t = -1.47$, $p = .141$), which suggested that initial levels of positive parenting were not related to change in positive parenting over time and vice versa.

The estimated factor loadings representing the proportion of change relative to the total change occurring over all time points were 0, 0, $-.22$, $-.31$, $.65$, and 1. Specifically, there was a significant decline in positive parenting from age 4 to age 5 ($-.22$, $p = .024$); a significant decline in positive parenting from age 4 to age 6 ($-.31$, $p = .008$); and significant growth in positive parenting from age 4 to age 7 ($.65$, $p < .001$). The average decline/growth of scores in positive parenting at each time point was computed to be: 0, 0, $-.44$, $-.61$, 1.29 , and 1.98 . These values can be added to the mean value on the Level factor to provide an estimated average positive parenting score at any given age. For example, at age 7, the value of the factor loading at that age ($.65$) is multiplied by the overall mean value on the Shape factor (1.98 , given below) to yield 1.29 . This value is then added to the mean value on the Level factor (10.67 , given above) to provide the estimated average positive parenting score at age 7 of 11.98 . The mean value for the Shape factor was positive and significantly different from zero ($\mu_y = 1.98$, $t = 8.32$, $p <$

.001), indicating that overall there was growth in mothers' positive parenting from the initial mean value on the Level factor ($\mu_{xy} = 10.67$). The variance on the Shape factor was $s^2 = 1.19$, $t = 1.71$, $p = .088$, reflecting a trend towards individual differences in the amount of change in mothers' positive parenting over time.

To what extent can the level and trajectories of positive parenting be directly predicted by socio-economic variables (mothers' education and family income), status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Before interpreting specific parameter estimates, it is important to examine overall model fit. The conditional model included mothers' education, family income, ethnic status, disability status, maternal depressive symptoms, and maternal optimism as predictors. The conditional Level and Shape model for mothers' positive parenting provided the following fit criteria: $\chi^2 = (37, N=219) = 74.29$ $p < .001$; CFI = .91; and RMSEA = .07 (.05; .09). Based on the aforementioned guidelines, the conditional model for mothers' positive parenting fit the data well.

Table 8 presents the conditional coefficients for the Level and Shape factors regressed on the predictors for positive parenting. With respect to initial status, there were four noteworthy findings. First, mothers' education significantly predicted the Level factor ($\gamma = .20$, $p = .003$), indicating that mothers' who reported more education had significantly higher initial values on positive parenting. Second, maternal depressive symptoms significantly predicted the Level factor ($\gamma = -.04$, $p = .028$), indicating that mothers who reported more depressive symptoms had significantly lower initial values

on positive parenting. Third, there was a trend for maternal optimism to predict the Level factor ($\gamma = .07$, $p = .066$), indicating that mothers who reported more optimism had higher initial values on positive parenting. Fourth, family income ($\gamma = .14$, $p = .500$), ethnic status ($\gamma = -.32$, $p = .355$), and disability status ($\gamma = -.18$, $p = .532$) did not predict the Level factor for mothers' positive parenting.

With respect to change rate, there were three noteworthy findings. First, family income predicted the Shape factor ($\gamma = .66$, $p = .006$), indicating that mothers who reported more family income made significantly more growth in positive parenting over time. Second, there was a trend for maternal optimism to predict the Shape factor ($\gamma = .07$, $p = .078$), indicating that mothers who reported more optimism made more growth in positive parenting over time. Third, mothers' education ($\gamma = -.09$, $p = .252$), ethnic status ($\gamma = -.13$, $p = .754$), disability status ($\gamma = .13$, $p = .706$), and maternal depressive symptoms ($\gamma = .02$, $p = .354$) did not predict the Shape factor for mothers' positive parenting. The relationship between mothers' depressive symptoms and maternal optimism was significant (covariance = -16.23, $p < .001$; correlation = -.40, $p < .001$).

To what extent can the level and trajectories of positive parenting be indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? For positive parenting, a number of preliminary models with different number of latent classes were investigated using the Bayesian Information Criterion (BIC). Table 9 presents the BIC index values using a one class model (BIC = 1557.06),

two class model (BIC= 1483.73) and a three class model (BIC= 1499.15). A two-class model was the best fit to the data because it had the lowest BIC index. The final classification of individuals into the two classes was 48.4% in class 1 and 51.6% in class 2. The respective correctly-classified average posterior probabilities were .89 and .92, suggesting that for mothers classified in group 1, the model accurately classified 89% of the people and for mothers classified in group 2, the model accurately classified 92% of the people.

Table 10 summarizes the model estimates for the latent growth mixture model (LGMM) with mother's education and family income having an indirect impact on the Level and Shape factors (i.e., through the latent class c) for positive parenting. With respect to initial status, the class invariant estimates suggested four noteworthy findings. First, there was a trend for ethnic status to predict the Level factor ($\gamma = -.64$, $p = .080$), indicating that Latina mothers had lower initial values on positive parenting compared to Anglo mothers. Second, there was a trend for disability status to predict the Level factor ($\gamma = -.50$, $p = .086$), indicating that mothers who had children with intellectual disabilities also had lower initial values on positive parenting compared to mothers who had typically developing children. Third, maternal optimism significantly predicted the Level factor ($\gamma = .10$, $p = .025$), indicating that mothers who reported more optimism had significantly higher initial values on positive parenting. Fourth, maternal depressive symptoms did not predict the Level factor ($\gamma = -.01$, $p = .666$) for mothers' positive parenting.

With respect to change rate, there were two noteworthy findings. First, maternal

optimism significantly predicted the Shape factor ($\gamma = .08, p = .048$), indicating that mothers' who reported more optimism made significantly more growth in positive parenting over time. Second, ethnic status ($\gamma = -.28, p = .422$), disability status ($\gamma = .03, p = .941$), and maternal depressive symptoms ($\gamma = -.004, p = .961$) did not predict the Shape factor for mothers' positive parenting. The relationship between maternal depressive symptoms and maternal optimism was significant (covariance = -5.47, $t = -2.76, p = .006$; correlation = -.24, $t = 1.96, p = .05$). Regarding explaining class membership, the log odds for mothers' education was .07 ($p = .457$) and the log odds for income was .63 ($p = .101$). With respect to the reference group (class 1), this suggests a trend such that mothers with more income were more likely to be members of the other latent class (i.e., class 2). To better understand the potential impact of income on class membership, it is important to note the odds ratio. The odds ratio was obtained by exponentiation of the log odds value (e.g., the exponentiated value for income is 1.88). For the present analysis, this suggests that the odds of being in Class 2 based on the income variable is 1.88 times larger than the odds of being in Class 1; that is, they increase by 88%.

Table 10 also displays the class specific results, which indicate that the means for the Level and Shape factors vary depending on the latent class. For class 1, the mean value for the Level factor was $\mu_{\text{cy}} = 9.17, t = 72.70, p < .001$. The mean value on the Shape factor was positive and significantly different from zero ($\mu_{\text{cy}} = 1.97, t = 28.14, p < .001$), indicating that overall there was significant growth in mothers' positive parenting from the initial mean value on the Level factor ($\mu_{\text{cy}} = 9.17$). For class 2, the mean value on the Level factor was $\mu_{\text{cy}} = 10.99, t = 86.54, p < .001$. The mean value on the Shape factor was

positive and significantly different from zero ($\mu_{\text{y}} = 1.92$, $t = 27.43$, $p < .001$), indicating that overall there was significant growth in mothers' positive parenting from the initial mean value on the Level factor ($\mu_{\text{y}} = 10.99$). Regarding the Level factor, the means for the latent classes were 9.17 and 10.99, respectively. For the Shape factor, the means for the latent classes were 1.97 and 1.92, respectively.

To what extent can the level and trajectories of positive parenting be directly and indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Table 11 summarizes the model estimates for the latent growth mixture model (LGMM) with mother's education and family income having a direct and indirect impact on the Level and Shape factors (i.e., through the latent class c) for positive parenting. With respect to initial status, the class invariant estimates suggested two noteworthy findings. First, mothers' education significantly predicted the Level factor ($\gamma = .21$, $p = .002$), indicating that mothers' who reported more education had significantly higher initial values on positive parenting. Second, family income ($\gamma = .13$, $p = .557$), ethnic status ($\gamma = -.31$, $p = .400$), disability status ($\gamma = -.23$, $p = .421$), maternal depressive symptoms ($\gamma = -.007$, $p = .833$), and maternal optimism ($\gamma = .07$, $p = .134$) did not predict the Level factor for mothers' positive parenting.

With respect to change rate, there were three noteworthy findings. First, family income significantly predicted the Shape factor ($\gamma = .67$, $p = .006$), indicating that mothers' who reported more family income made significantly more growth in positive

parenting over time. Second, there was a trend for maternal optimism to predict the Shape factor ($\gamma = .08$, $p = .064$), indicating that mothers' who reported more optimism made more growth in positive parenting over time. Third, mothers' education ($\gamma = -.10$, $p = .172$), ethnic status ($\gamma = -.15$, $p = .684$), disability status ($\gamma = .11$, $p = .748$), and maternal depressive symptoms ($\gamma = -.001$, $p = .977$) did not predict the Shape factor for mothers' positive parenting. The relationship between maternal depressive symptoms and maternal optimism was significant (covariance = -5.48 , $t = -1.96$, $p = .050$; correlation = $-.24$, $t = -2.98$, $p = .003$). Regarding explaining class membership, the log odds for mothers' education was $.06$ ($p = .544$) and the log odds for income was $.65$ ($p = .077$). With respect to the reference group (class 1), this suggests a trend such that mothers' with more income were more likely to be members of the other latent class (i.e., class 2). As mentioned previously, to better understand the potential impact of income on class membership, it is important to note the odds ratio. Similar to the indirect model, the odds ratio was obtained by exponentiation of the log odds value (e.g., the exponentiated value for income is 1.92). For the present analysis, this suggests that the odds of being in Class 2 based on the income variable is 1.92 times larger than the odds of being in Class 1; that is, they increase by 92%.

The class specific results indicated that the means for the Level and Shape factors vary depending on the latent class. For class 1, the mean value for the Level factor was $\mu_{\alpha\gamma} = 9.16$, $t = 73.87$, $p < .001$. The mean value on the Shape factor was positive and significantly different from zero ($\mu_{\alpha\gamma} = 1.95$, $t = 29.10$, $p < .001$), indicating that overall there was significant growth in mothers' positive parenting from the initial mean value on

the Level factor ($\mu_{0,y} = 9.16$). For class 2, the mean value on the Level factor was $\mu_{0,y} = 10.99$, $t = 88.92$, $p < .001$. The mean value on the Shape factor was positive and significantly different from zero ($\mu_{0,y} = 1.91$, $t = 28.50$, $p < .001$), indicating that overall there was significant growth in mothers' positive parenting from the initial mean value on the Level factor ($\mu_{0,y} = 10.99$). For the Level factor, the means for the latent classes were 9.16 to 10.99, respectively. For the Shape factor, the means for the latent classes were 1.95 and 1.91, respectively. Refer to Table 11.

Which model of SES (direct impact, indirect impact, or direct and indirect impact of mothers' education and family income) is the best fit to the data? Table 12 shows the Akaike Information Criterion (AIC) index for the conditional model with mothers' education and family income having a direct impact on the Level and Shape factors (AIC= 9449.86), the LGMM model with mothers' education and family income having an indirect impact on the Level and Shape factors (AIC= 7424.62), and the LGMM model with mothers' education and family income having a direct as well as indirect impact on the Level and Shape factors (AIC= 7409.97). Therefore, the LGMM model with mothers' education and family income having a direct as well as indirect impact on the Level and Shape factors was a best fit to the data because it had the smallest AIC index. Figure 6 displays the estimated latent class means and growth trajectories for the LGMM with mothers' education and family income having a direct and indirect impact on the Level and Shape factors for positive parenting. As seen in Figure 6, the two classes have a similar trajectory; however, mothers in class 2 started off and remained at a higher level on positive parenting behaviors than mothers in class 1.

Negative Parenting

To what extent do mothers' negative parenting change across early and middle childhood? The descriptive statistics for mothers' negative parenting are presented in Table 13 and displayed in Figure 7. Since the trajectory of negative parenting did not change over time, latent curve analysis was not performed. Therefore, all of the subsequent analyses used negative parenting at age 4 (to be consistent with positive parenting) as the dependent variable.

To what extent can the level of negative parenting be predicted by socio-economic variables (mothers' education and family income), status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism)? Hierarchical multiple regression is a variant of basic multiple regression that allows one to specify how variables are entered into the model. A hierarchical multiple regression model was conducted using negative parenting at age 4 as the dependent variable. Three blocks of independent variables were used: 1) the socio-economic variables (mothers' education and family income were entered as Step 1); 2) the status variables (ethnic status and disability status were entered as Step 2); and 3) maternal psychological variables (depressive symptoms and optimism were entered as Step 3).

Block one, the socio-economic variables, accounted for 3% of the variance in negative parenting. There was a trend for the control variables to explain variation in negative parenting, ($F(2, 180) = 2.56, p < .10$). Block two, the status variables, accounted for an additional 4% of the variance in negative parenting after accounting for the socio-

economic variables. These variables did not explain a significant proportion of the variation in negative parenting, ($F(4, 178) = 1.76, p = .14$). Block three, maternal psychological variables, accounted for an additional 4% of the variance in negative parenting after accounting for the socio-economic and status variables. These variables did not explain a significant proportion of the variation in negative parenting, ($F(6, 176) = 1.34, p = .25$). As seen in Table 14, mothers' education ($b = -.03, p = .35$), family income ($b = -.14, p = .21$), ethnic status ($b = .18, p = .32$), disability status ($b = .14, p = .40$), maternal depressive symptoms ($b = .01, p = .54$), and maternal optimism ($b = -.01, p = .61$) were not related to negative parenting at age 4.

Discussion

The aim of the present study was to examine the longitudinal parenting behaviors (both positive and negative) of mothers, as well as to investigate the relationship between parenting behaviors and socio-economic variables (education and income), status variables (Anglo vs. Latino; typical development vs. intellectual disability) and maternal psychological variables (depressive symptoms and optimism). Overall, the results of this study provided evidence for an increase in positive parenting behaviors over time, with particular emphasis on socio-economic characteristics.

To date, this is the first study to examine parenting behaviors with observational methods in families of children with and without intellectual disabilities, especially from a longitudinal perspective that spans from early childhood to middle childhood. It is important to engage in such methodologically rigorous investigations because of the limitations of working with questionnaire/interview techniques (e.g., response bias,

confirmation bias), as well as the limitations of working with single time-point or cross-sectional data (e.g., restrictive assumptions). Currently, parenting practices are usually studied via questionnaires (Bamaca-Colbert et al. 2011; Button, Pianta, & Marvin, 2001; Hill et al., 2003) or interviews (Laghezza et al., 2010; Schulze et al., 2002); there are limited observational investigations of parenting. However, direct observations of parenting behavior is advantageous because it is a primary source of information and provides a means to examine the child x parent x environment interaction (Merrell, 2009). In addition, several authors recommended engaging in longitudinal analyses of parenting practices in order to shed light on the direction of effect, as well as how parenting practices change over time (Chazan-Cohen et al., 2009; Schmitz, 2005; Todd & Jones, 2005). Although there are longitudinal investigations of negative parenting with typically developing children and children with intellectual disabilities, often using questionnaires and/or interviews, the present study is the first of its kind to investigate the longitudinal trajectory of positive parenting across a six-year period using an externally valid observational design in families of children with and without intellectual disabilities.

Positive Parenting

The first research question examined the extent to which mothers' positive parenting behaviors changed across early and middle childhood. The results of the present study suggested that overall there was growth in mothers' positive parenting across a six-year period. There was also a trend towards individual differences in the trajectory of mothers' positive parenting over time. When children were three years old,

there were significant individual differences in the level of positive parenting. Moreover, initial levels of positive parenting when children were three years old were not related to the trajectory of positive parenting over time and vice versa.

Direct model of SES. The second research question investigated the extent to which the level and trajectories of positive parenting can be directly predicted by socio-economic variables (mothers' education and family income), status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism). This research question refers to the direct model of SES, such that mothers' education and family income would have a direct impact on positive parenting. The results of this direct model suggested three significant findings. First, mothers who reported more education had significantly higher initial values on positive parenting. Second, mothers who reported more depressive symptoms had significantly lower initial values on positive parenting. Third, mothers who reported more family income made significantly more growth in positive parenting over time. Too, there was a trend indicating that mothers who reported more optimism had higher initial values on positive parenting, as well as more growth in positive parenting over time.

It is important to note that many authors have proposed that mothers' education and family income can have a direct impact on parenting (Fenning et al., 2007; Moreno, 1997; Raviv et al., 2004; & Simpkins et al. 2006), and as such, the results of the direct model of SES are consistent with previous research. In particular, when authors have investigated the direct impact of socio-economic variables, the importance of depressive symptoms were highlighted. For typically developing children, longitudinal analyses of

parenting behaviors indicated that maternal depressive symptoms were associated with less engagement (Turney, 2011), less warmth (Molen, Hispwell, Vermeiren, Loeber, 2011; Taylor et al., 2010) and less child management (Taylor et al., 2010). In addition, Lloyd and Hastings (2008) used questionnaires to explore acceptance and avoidant coping with 91 mothers of pre-adolescent children with intellectual disabilities. Cross-sectional analyses revealed that mothers with depressive symptoms reported less acceptance and more avoidant coping. Longitudinal analyses showed that acceptance was bi-directionally related to depression.

There are several possible explanations as to why maternal depressive symptoms may be linked to positive parenting. First, a negative affective state may lead to decreased concerns for the child's needs and feelings, as well as an increased concern for one's own feelings (Dix, Gershoff, Meunier, & Miller, 2004). Second, symptoms of depression may diminish a mother's capacity to read and sensitively respond to her child's cues (Button et al., 2001). Third, maternal depressive symptoms may limit the amount of effort a mother puts into interacting with her child (Atkinson et al., 1995). Fourth, a mother with depressive symptoms may experience increased negative emotions while interacting with her child, and these negative emotions can create an environment in which being responsive and positive to the child's needs is challenging (Cummings & Davies, 1994).

Indirect model of SES. The third research question examined the extent to which the level and trajectories of positive parenting can be indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables

(maternal depressive symptoms and maternal optimism). This research question refers to the indirect model of SES, such that mothers' education and family income would have an indirect impact on positive parenting. (Preliminary analyses suggested that there were two groups underlying this sample of mothers based on their education and family income.) The results of this indirect model suggested that mothers who reported more optimism had significantly higher initial values on positive parenting, as well as significantly more growth in positive parenting over time.

Findings from general research on optimism suggest ways about how having an optimistic outlook may be linked to positive parenting. First, optimists may have an advantage in dealing with threatening events from their preference for more adaptive coping strategies. For example, optimists engage in problem solving and seeking social support (Dougall, Hyman, Hayward, McFeeley, & Baum, 2001). In addition, they effectively modulate their anger and patience, as well as manage their children more appropriately (Koenig et al., 2010). According to Judge (1998), parents of children with disabilities use a variety of coping strategies. However, parents' use of problem-focused coping that emphasized efforts to seek social support, actively solve the problem, and maintain a positive outlook on life was the most adaptive. Adaptive coping strategies may in turn be reflected in parenting behaviors. For example, in a sample of 56 mothers and their children with Down syndrome, avoidance coping exerted a negative impact on maternal sensitivity (Atkinson et al. 1995).

Second, optimistic parents may have an attentional bias for their child's positive behaviors. According to Segerstrom (2001), the effects of optimism were most obvious in

the relative attentional bias for positive versus negative stimuli. Specifically, among highly optimistic people, attentional bias for positive stimuli exceeded that for negative stimuli. In contrast, among pessimistic people, there was an attentional bias for negative stimuli, but not for positive stimuli. For parents of children with intellectual disabilities, acknowledgement of children's positive behaviors resulted in more positive affect in the parent-child relationship (Coplan et al., 2002). Parents who display optimism may not only have an attentional bias for their child's positive behaviors, but they may also redefine difficult behaviors in more positive terms (e.g., high energy) (Koenig et al., 2010).

In the indirect model of SES, there were also trends with regard to ethnicity and disability. Specifically, Latina mothers had lower initial values on positive parenting when their children were three years old. This is consistent with findings from previous research with typically developing children suggesting differences in positive parenting across ethnic groups (Ispa et al., 2004; Moreno, 1997; Padilla-Walker et al., 2011). For example, maternal warmth was examined in 579 European American, 412 African American, and 241 Mexican American families when children were approximately 15 months old. Mothers were asked to play with their children in a semi-structured 10-minute interaction. Maternal warmth was defined as the mother's physical and verbal expressions of love, attentiveness, respect or admiration for her child. Compared to European American mothers, African American mothers and Mexican American mothers displayed less warmth in play with their toddlers, as defined in this particular study (Ispa et al., 2004).

It is possible that the cultural notion of *respeto* may be a reason as to why Latina mothers engaged in less positive parenting. *Respeto* is based on respect for oneself as well as respect for and obedience to authority (Fuller & Coll, 2010; Gonzalez-Ramos & Zayas, 1998; Halgunseth et al., 2006). Latino children are taught from a very young age about the rules for *respeto*, including politely greeting elders, not challenging an elder's point of view, and not interrupting conversations between adults (Valdes, 1996). An increased emphasis on *respeto* may contribute to differences in cognitive stimulation (i.e., modeling) and positive affect (i.e., praise), two aspects of positive parenting examined in the present study.

For instance in a series of cross-cultural studies, Puerto Rican mothers of infants attended more to dimensions of respect (e.g. obedience, good behavior) than personal development (e.g., self-confidence, independence); asserted their parental authority; and used direct interventions such as physical restraint more than European American mothers, who used more modeling, praise, and suggestions (Harwood, 1992; Harwood et al., 1999). Consistent with these findings, Nadeem et al. (2007) reported that Latina mothers engaged in lower levels of praise and encouragement when asked to talk to their typically developing adolescents about dating and sexuality, conflict, and AIDS. The authors noted that Latino adolescents did not perceive the low occurrence of praise and encouragement from Latina mothers as negative. The authors suggested that perhaps Latina mothers did not engage in such behaviors because it was not meaningful to their socialization goals or to their adolescents' feelings about the relationship.

In addition to *respeto*, another probable reason that Latina mothers may engage in

less positive parenting is *educacion*. *Educacion* is more comprehensive than the English word, “education”. In English, someone with education is schooled, knowledgeable, and literate. However in Spanish, someone with *educacion* is moral, responsible, and well-mannered (Goldenberg & Gallimore, 1995; Halgunseth et al., 2006). For Latino parents, important childrearing goals are to have a moral and responsible child (Valdes, 1996) with proper interpersonal skills (Cote, Bornstein, & Hayes, 2008). Therefore, Latino parents are concerned with raising a child who will become a “good person” (*persona de bien*) and follow the “good path” (i.e., *el buen camino*). Academic achievement is just one component of following the “good path” (Goldenberg & Gallimore, 1995).

It is likely that in Latino families, cultural practices support alternative modes of competency; that is, the increased focus on socio-emotional and moral development takes precedent over the emphasis on cognitive functioning (Fuller & Coll, 2010). For example, Goldenberg & Gallimore (1995) reported that although immigrant Mexican parents reported that academics and moral development were inextricably related, nearly 44% of parents rated moral development higher than academics. Therefore in Latino families, academic and cognitive development are seen as the school’s responsibility. For example, immigrant parents from Mexico and Central America perceived reading as something that is learned, through repeated practice, after a child begins school (Reese & Gallimore, 2000). In the present study, the Latina mothers may have engaged in less positive parenting due to the cultural notions relevant for this population, such as *respeto* and *educacion*.

In addition to ethnic status, there also was a trend for disability status in the

indirect model of SES. Specifically, mothers of children with intellectual disabilities had lower initial values on positive parenting when their children were three years old. This is consistent with previous research indicating that parents of children with intellectual disabilities display less positive parenting (Cuskelly et al., 2006; Eshbaugh et al., 2011; Fenning, et al., 2007). One probable reason for this lack of positive parenting is that parents of children with intellectual disabilities may perceive their roles as encouraging the child to perform well rather than supporting and complimenting the child (Mahoney, Fors, & Wood, 1990). Finally in the indirect model of SES, there was a trend indicating that mothers with more income were more likely to be members of class two. Specifically with higher income, the odds of being in class two were almost twice as likely as the odds of being in class one. Although the trajectory of positive parenting was similar in both classes, mothers in class two started off and remained at a higher level of positive parenting than mothers in class one.

Direct and indirect model of SES. The fourth research question investigated the extent to which the level and trajectories of positive parenting can be directly and indirectly predicted by socio-economic variables (mothers' education and family income) and directly predicted by status variables (ethnicity and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism). This research question refers to the combined direct and indirect model of SES, such that mothers' education and family income would have a direct as well as indirect impact on positive parenting. The results of this direct/indirect model suggested two significant findings. First, mothers who reported more education had significantly higher initial

values on positive parenting when their children were three years old. This finding is consistent with a longitudinal observational study of parenting with 1041 mothers and their typically developing children, in which low SES (i.e., maternal education) was associated with poor parenting (where parenting was defined using the indicators of warmth, negativity, positive control, fairly similar to the present study) (Belsky, Bell, Bradley, Stallard, Lynette, & Steward-Brown, 2006).

The second noteworthy finding from the direct/indirect model of SES was that mothers' who reported more family income made significantly more growth in positive parenting over time. Previous research has shown that families supporting children with intellectual disabilities are at an increased risk for socio-economic disadvantage (Emerson, 2003, 2010; Emerson et al., 2009; Emerson & Hatton, 2007; Emerson et al., 2006; Emerson et al., 2011). Specifically, Emerson et al. (2009) reported that the majority of children at-risk for intellectual disabilities were living in income poverty, whereas, the majority of children not at-risk for intellectual disabilities were living in relatively advantaged circumstances. This is problematic considering that higher socio-economic status is related to more positive parenting at multiple ages throughout childhood (Smith, Landry, & Swank, 2009). In young children, exposure to material and psychosocial hazards such as poor housing conditions, nutrient poor diets, and economic insecurity may result in the adverse health conditions associated with the disability. This is exacerbated, as children get older by the direct and indirect costs associated with caring for a disabled child (Emerson et al., 2011). For example, mothers of children with intellectual disabilities are often delayed or prevented from entering the workforce

(Portfield, 2002), which in turn, delays or prevents secondary income to attenuate the additional cost of caring for a child with an intellectual disability (Leonard, Brust, & Sapienza, 1992; Meyers, Lukemeyer, & Smeeding, 1998). Unfortunately, families of children with and without intellectual disabilities who are at-risk for entering poverty also are at-risk of never exiting poverty (Emerson & Hatton, 2007).

Therefore, the results of the present study are consistent with the literature on typically developing children (Halgunseth et al., 2006; Knight et al., 1994; McLoyd, 1990, 1998; Medora et al., 2001; Raviv et al., 2004; Reese, 2002; Simpkins et al., 2006; Smith, Landry, & Swank, 2009) and children with intellectual disabilities (Emerson, Einfeld, et al., 2011; Emerson et al., 2009; Emerson & Hatton, 2007; Emerson, Madden et al., 2011), which suggests the powerful impact of socio-economic characteristics. Specifically, this study indicated that education is related to the level (i.e., where mothers' started off) in positive parenting. It is likely that mothers with more education are better able to understand the constellation and depth of factors that impact their children's development, especially from a young age (Hess & Shipman, 1965, Eshbaugh et al., 2011), and therefore engage in higher levels of positive parenting in early childhood. In the present study, family income was related to how mothers changed over time in positive impacting. One probable explanation is that parents with higher income also had more resources (e.g., opportunities to attend classes, read on the topic, hire a babysitter), and consequentially, were able to engage in positive parenting practices over time (Pelchat et al., 2003).

The direct/indirect model of SES also suggested that there was a trend for

optimism, indicating that mothers' who reported more optimism made more growth in positive parenting over time. Similar to the indirect model of SES, there was a trend indicating that mothers with more income were more likely to be members of class two. Specifically with higher income, the odds of being in class two were almost twice as likely as the odds of being in class one. As mentioned previously, although the trajectory of positive parenting was similar in both classes, mothers in class two started off and remained at a higher level of positive parenting than mothers in class one. Although not significant, this is a noteworthy finding because the relationship between income and parenting date back to research in the 1960s (Hess & Shipman, 1965). The results of the present study provide preliminary evidence that the socio-economic backgrounds of mothers, as measured by their educational attainment is important; however, it is income poverty that has the powerful effect of differentiating groups (Emerson et al., 2009).

Comparison of SES models. The fifth research question determined which model of SES (direct impact, indirect impact, or direct and indirect impact of mothers' education and family income) was the best fit to the data. A comparison between models suggested that the direct/indirect model of SES, which proposed that education and income had a direct as well as an indirect impact on positive parenting, was the best fit to the data. To date, this is the first study to examine the particular ways in which socio-economic variables, as measured by mothers' education and family income, may impact parenting practices.

Currently, the literature on parenting has either failed to address the impact of socio-economic variables at all or controlled for the effects of socio-economic variables,

rather than considering them as an independent contributor to parenting practices (Emerson et al., 2006). However, failing to consider socio-economic characteristics may mask or elevate findings, and consequentially, lead to faulty conclusions. For example, when investigating the Down syndrome advantage (i.e., parents of children with Down syndrome experience greater well-being), Stoneman (2007) found that the results supported the Down syndrome advantage when income was not considered. However after variance attributable to income was removed, the Down syndrome advantage disappeared. The results of the present study suggest that socio-economic characteristics function in a complex and significant manner, and therefore, it is imperative for parenting and disability researchers to take these attributes into consideration in order to provide ecologically and methodologically clear results.

Negative Parenting

The aforementioned research questions regarding positive parenting also were posed for negative parenting. However, these questions could not be answered because there was no change in mothers' negative parenting across a six-year period. This is consistent with Baker, Smith, Greenberg, Seltzer, and Taylor (2011) study, in which the authors reported low but significant stability in maternal criticism across a seven-year period for mothers of adolescents and young adults with autism spectrum disorders.

Due to the lack of change in negative parenting over time, the interest was primarily in the level of negative parenting. Therefore, a modified research question examined the extent to which the level of negative parenting can be predicted by socio-economic variables (mothers' education and family income), status variables (ethnicity

and disability), and/or maternal psychological variables (maternal depressive symptoms and maternal optimism). The results indicated that socio-economic variables, status variables, and maternal psychological variables were not related to negative parenting. With regard to socio-economic variables, other researchers also have shown that SES does not relate to aspects of negative parenting (e.g., behavioral control) with typically developing children (Chao & Kanatsu, 2008). With regard to status variables, particularly ethnicity, the results of this study are consistent with previous research with typically developing children indicating no differences in negative parenting between Anglo and Latina mothers. For example, Latina and European American mothers did not differ in their levels of negativity (i.e., disagreeing, harsh criticism or sarcasm, verbal and nonverbal expressions of disgust) with their adolescents. In both groups, mothers engaged in low levels of conflict and criticism in their interactions (Nadeem et al., 2007).

With negative parenting, the fact that disability status was not a significant predictor also is consistent with some previous research (Glidden, Bamberger, Turek, & Hill, 2010). For example, Fenning et al (2007) reported that mothers of children with borderline intelligence did not differ from mothers of children with developmental delays or mothers of children with typical development in terms of negative affect or intrusiveness. However there is other research, which suggests that parents of children with intellectual disabilities engage in more negative parenting practices, such as intrusion (Cuskelly et al., 2006; Laghezza, et al., 2010).

One probable explanation for this finding is that the negative parenting dimensions examined in the present study (negative affect and intrusiveness) may not

necessarily be negative within the context of families of children with intellectual disabilities. For example, Coplan et al. (2002) suggested that a modest increase in parental negativity may be necessary for obtaining children's attention when they have misbehaved. According to Floyd et al. (2004) in the presence of behavioral problems, parental directiveness is an adaptive strategy with children with disabilities. In particular, parents' directives were responsive to the types of difficulties that children with intellectual disabilities faced when attending to and participating in family discussions. For example, parents used more leading questions (i.e., questions that have implied answers), prompted, and helped their children in order to elicit appropriate behavior. Therefore, persistent directiveness and intrusion from parents of children with disabilities is an effective behavior management strategy for obtaining compliance (Floyd & Phillippe, 1993).

Limitations and Next Steps

As with any study, it is important to note the limitations of the analytic strategy. First, due to the complexity of the analyses, more in-depth investigations such as mediation and/or bi-direction were not conducted. Research has shown that parenting practices can serve as a mediator between SES and children's adjustment (Belsky et al., 2006; Conger & Donnellan, 2007). For example, McLoyd (1998) found that the adverse effects of SES on children's functioning could be mediated through differences in academic and language stimulation that children receive at home.

In addition, research findings also support a bi-directional link between parenting and the cognitive, social-emotional, and behavioral adjustment of children with and

without intellectual disabilities (Eshbaugh et al, 2011; Kaiser et al., 2011; Paczkowski & Baker, 2007; Warren & Brady, 2007). For example, higher child externalizing behavioral problems were related to child rearing practices that were more authoritarian and less authoritative (Baker & Heller, 1996; Coplan, et al., 2002). For children with intellectual disabilities, it is likely that parents are not be able to interpret signals from their children, which could result in parenting that does not meet the children's needs and places their development at further risk (Eshbaugh et al., 2011). Therefore, promising areas of future research include examining a meditational model of parenting, as well as investigating the transactional relationship between socio-economic variables, parenting practices, and children's adjustment.

The second limitation of the present study was that due to the sample size, it was not possible to directly examine within-group determinants of parenting practices. In the Latino population, cultural notions are prominent for parenting practices. In particular, the constructs of interdependence, *familismo*, *educacion*, and *respeto* have been linked to aspects of positive and negative parenting (Chao & Kanatsu, 2008; Ghazarian and Roche, 2010; Goldenberg & Gallimore, 1995; Halgunseth et al, 2006; Harwood, 1992; Harwood, Schoelmerich, Schulze, & Gonzalez, 1999; Nadeem et al., 2007). For example, in the Latino culture, emphasis on the family is referred to as *familismo*. *Familismo* can be defined as family closeness, concern for the overall well being of the family, and a strong endorsement of family responsibility, as well as behaviors associated with such beliefs such as frequent contact and reciprocity between family members (Cauce & Domenich-Rodriguez, 2002; Fuller & Coll, 2010; Halgunseth et al., 2006; Sabogal, Marin, Otero-

Sabogal, Marin, & Perez-Stable, 1987). A key component of *familismo* is putting the family's needs above those of the individual and working together to promote family harmony.

The cultural value of *familismo* has been shown to impact Latina mothers approach to parenting. For example, parents who endorsed these principles were more likely to coordinate their parenting to preserve family unity (Solmeyer, Killoren, McHale, & Updegraff, 2011). In addition, Fischer et al. (2009) reported that relational qualities (i.e., being loving and affectionate as well as having a sense of humor and patience) were highly valued among Latina mothers raising children in the U.S. The authors suggested that relational qualities are consistent with the notion of *familismo*, which emphasizes affection and loyalty towards other family members. Another area of future research is to investigate whether cultural notions account for variance in parenting practices above and beyond socio-economic variables.

The third limitation of the present study was the lack of comprehensive measures for socio-economic status. Currently, indicators of socio-economic status used in the literature include income, maternal/paternal education, maternal age, married vs. single parent, employment status, home ownership, housing quality, social activities, and the number of siblings in the household (Belsky et al., 2006; Chao & Kanatsu, 2008; Emerson & Hatton, 2007). It is likely that certain indicators of SES may be more related to parenting than others. For example, Chao and Kanatsu (2008) reported that a majority of the SES variables (as measured by mothers' and fathers' educational levels, employment status, and home ownership) did not explain much additional variance in

parental monitoring or warmth in Latino and Asian families of typically developing children. However, the only SES indicator that was related to parenting was the number of siblings; specifically, as the number of siblings decreased, parental warmth increased. Therefore, in order to fully understand the impact of socio-economic variables, it is important for future studies to measure socio-economic status with multiple indicators.

Nevertheless, the findings of the present study have important implications. First, previous research has established the efficacy of treatment programs to increase positive parenting with typically developing children and children with intellectual disabilities (Feinfield & Baker, 2004; Landry, Smith, & Swank, 2006; Landry, Smith, Swank, & Guttentag, 2008). Too, the rationale behind early interventions for children raised in low-income households is to overcome the relative developmental disadvantage for these children (Glidden et al., 2010). Emerson and colleagues (Emersin et al., 2009; Emerson & Hatton, 2007) suggested that interventions for families of children with intellectual disabilities will need to be accessible and effective for deprived families and communities, as they are for more advantaged families and communities. Otherwise, selective access and use of interventions will only increase the social inequalities already present.

The second implication of the present study is that there is an overwhelming amount of literature suggesting that parenting is related to the social, emotional, behavioral, and academic outcomes for children with and without disabilities (Aran et al., 2007; Baker et al., 2007; Calzada et al., 2009; Eamon, 2005; Fenning et al., 2007; Ghazarian & Roche, 2010; Holmbeck et al., 2002; Kaiser et al., 2011; Leidy, Guerra, &

Toro, 2010; McLoyd, 1990, 1998; Paczkowski & Baker, 2007; Padilla-Walker et al., 2011; Sanders, 2006; & Warren & Brady, 2007). In addition, children may display core patterns of behavior with different partners and in different contexts. In particular, Gurnalnick, Neville, Hammond, and Connor (2007) showed that the social communication patterns of pre-school children with developmental delays when interacting with their mothers closely corresponded to children's social interactions with peers. Therefore, a more broad documentation of social context may lead to a better understanding of the complex associations between parenting, socio-economic characteristics, status variables, and maternal psychological well-being.

Summary

Thus, the present study provides evidence that positive parenting behaviors increased during early and middle childhood in mothers of children with and without intellectual disabilities. A comparative analysis of three models of SES suggested that mothers' education and family income have a direct as well as indirect impact on positive parenting. With regard to a direct impact, mothers who reported more education had significantly higher levels of positive parenting when their children with three years old. However, mothers who reported more family income grew at a significantly faster rate in positive parenting over time. There also was preliminary support indicating that mothers with more income were more likely to be members of a class that started off and remained at a higher level of positive parenting. Socio-economic variables were more important for positive parenting than status variables (ethnicity and disability) and maternal psychological variables (depressive symptoms and optimism). There was no

change over time in mothers' negative parenting across early and middle childhood.

The results of the present study contribute to the broader literature on parenting and intellectual disability because for children already facing the obstacles of poverty (with or without developmental risk), lack of positive parenting may be detrimental to development. Parents who are able to maintain warm, sensitive, engaged, and cognitively stimulating behaviors with their children, in the face of educational and financial deprivation, can potentially protect their children from the deleterious effects of socio-economic adversity.

References

- Aber, J.L., Belsky, J., Slade, A., & Crnic, K. (1999). Stability and change in mother's representations of their relationship with their toddlers. *Developmental Psychology, 35*(4), 1038-1047.
- Agresti, A. & Finaley, B. (2009). *Statistical methods for the social sciences-fourth edition*. Upper Saddle River, NJ: Pearson Prentice Hall.
- American Psychiatric Association (APA, 2000). *Diagnostic and statistical manual of mental disorders. DSM-IV, Fourth Edition Text Revision*. Washington, DC: American Psychiatric Association.
- Aran, A., Shalev, R.S., Biran, G., & Gross-Tsur, V. (2007). Parenting style impacts on quality of children in children with cerebral palsy. *The Journal of Pediatrics, 151*(1), 56-60.
- Atkinson, L., Scott, B., Chisholm, V., Blackwell, J., Dickens, S., Tam, F., & Goldberg, S. (1995). Cognitive coping, affective distress, and maternal sensitivity: Mothers of children with Down syndrome. *Developmental Psychology, 31*(4), 668-676.
- Bailey, D.B., Skinner, D., Correa, V., Arcia, E., Reyes-Blanes, M.E., Rodriquez, P., ...& Skinner, M. (1999). Needs and supports reported by Latina families of young children with developmental disabilities. *American Journal on Mental Retardation, 104*(5), 437-451.
- Baker B. L. & Blacher J. (2004) Positive impact of children with intellectual disabilities: The Family Impact Questionnaire. *Journal of Intellectual Disability Research, 48*, 372.
- Baker, B.L., Blacher, J., Crnic, K.A., & Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year-old children with and without developmental delays. *American Journal of Mental Retardation, 107*(6), 433-444.
- Baker, B.L., Blacher, J., & Olsson, M.B. (2005). Preschool children with and without developmental delay: Behavior problems, parent's optimism and well-being. *Journal of Intellectual Disability Research, 49*(8), 575-590.
- Baker, B.L. & Heller, T.L. (1996). Preschool children with externalizing behaviors: Experience of fathers and mothers. *Journal of Abnormal Psychology, 24*(4), 513-532.

- Baker, B.L., Heller, T.L., & Henker, B. (2000). Expressed emotion, parenting stress, and adjustment in mothers of young children with behavior problems. *Journal of Child Psychology and Psychiatry, 41*(7), 907-915.
- Baker, J.K., Fenning, R.M., Crnic, K.A., Baker, B.L., & Blacher, J. (2007). Prediction of social skills in 6-year old children with and without developmental delays: Contributions of early regulation and maternal scaffolding. *American Journal of Mental Retardation, 112*(5), 375-391.
- Baker, B.L., McIntyre, L.L., Blacher, J., Crnic, C., & Edelbrock, C.L. (2003). Pre-school children with and without developmental delay: Behavior problems and parenting stress over time. *Journal of Intellectual Disability Research, 47*(4), 217-230.
- Baker, J.K., Smith, L.E., Greenberg, J.S., Seltzer, M.M., & Taylor, J.L. (2011). Change in maternal criticism and behavior problems in adolescents and adults with autism across a 7-year period. *Journal of Abnormal Psychology, 120*(2), 465-475.
- Bamaca-Colbert, M.Y., Gayles, J.G., & Lara, R. (2011). Family correlates of adjustment profiles in Mexican-origin female adolescents. *Hispanic Journal of Behavioral Sciences, 33*(2), 123-151.
- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development, 37*, 249-266.
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monographs, 4*(1, Pt. 2), 1-103.
- Baumrind, D. (1989). Rearing competent children. In W. Damon (Ed.), *Child development today and tomorrow* (pp. 349-378). San Francisco: Josey-Bass.
- Baumrind, D. (1991). Effective parenting during the early adolescent transition. In P.W. Cowan & E.M. Hetherington (Eds.), *Family transitions. Advances in family research series* (pp. 111-163). Hillsdale, NJ: Erlbaum.
- Bayat (2007). Evidence of resilience in families of children with autism. *Journal of Intellectual Disability Research, 51*(9), 702-714.
- Bayley, N. (1993). *Bayley Scales of Infant Development Second Edition: Manual*. San Antonio: Psychological Corp.
- Beck, A., Daley, D., Hastings, R.P., & Stevenson, J. (2004). Mothers expressed emotion towards children with and without intellectual disabilities. *Journal of Intellectual Disability Research, 48*(7), 628-638.

- Belsky, J., Bell, B., Bradley, R.H., Stallard, N., Lynette, S., Steward-Brown, S.L. (2006). Socioeconomic risk, parenting during the preschool years and child health age 6 years. *European Journal of Public Health, 17*(5), 508-513.
- Belsky, J., Crnic, K., & Gable, S. (1995). The determinants of co-parenting in families with toddler boys: Spousal differences and daily hassles. *Child Development, 66*, 629-642.
- Belsky, J., Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience. *Development and Psychopathology, 10*, 301-319.
- Blacher, J. (2001). Transition to adulthood: Mental retardation, families, and ethnicity. *American Journal of Mental Retardation, 106*(2), 173-188.
- Blacher, J. & Baker, B.L. (2007). Positive impact of intellectual disability on families. *American Journal of Mental Retardation, 112*(5), 330-348.
- Blacher, J., Baker, B.L., & Kaladjian, A. (2012). Syndrome specificity and mother-child interactions: Examining positive and negative parenting across contexts and time. *Journal of Autism and Developmental Disabilities, 37*(1), 1-13.
- Blacher, J., Lopez, S., Shapiro, J., & Fusco, J. (1997). Contributions to depression in Latina mothers with and without children with retardation: Implications for caregiving. *Family Relations, 46*(4), 325-334.
- Blacher, J. & McIntyre, L.L. (2006). Syndrome specificity and behavioral disorders in young adults with intellectual disability: Ethnic differences in family impact. *Journal of Intellectual Disability Research, 50*(3), 184-198.
- Blacher, J., Neece, C.L., & Paczkowski, E. (2005). Families and intellectual disability. *Current Opinion in Psychiatry, 18*, 507-513.
- Blacher, J., Shapiro, J., Lopez, S., Diaz, L., & Fusco, J. (1997). Depression in Latina mothers of children with mental retardation: A neglected concern. *American Journal of Mental Retardation, 101*, 483-496.
- Bolton, C., Calam, R., Barraowclough, C., Peters, S., Roberts, J., Wearden, A., & Morris, J. (2003). Expressed emotion, attributions, and depression in mothers of children with problem behavior. *Journal of Child Psychology and Psychiatry, 44*(2), 242-254.

- Bornstein, M.H., Tamis-LeMonda, C.S., Pecheux, M.G., & Rahn, C.W. (1991). Mother and infant activity and interaction in France and in the United States: A comparative study. *International Journal of Behavioral Development, 14*(1), 21-42.
- Bostrom, P.K., Broberg, M., & Bodin, L. (2011). Child's positive and negative impacts on parents: A person-oriented approach to understanding temperament in preschool children with intellectual disabilities. *Research in Developmental Disabilities, 32*, 1860-1871.
- Brown, G. W., Birley, J. L. T., & Wing, J. K. (1972). Influence of family life on the course of schizophrenic disorders: A replication. *British Journal of Psychiatry, 121*, 241–258.
- Buchanan, M. (2009). The home play of toddlers with disabilities: Contexts and maternal perspectives. *International Journal of Disability, Development, and Education, 56*, 263–283.
- Button, S., Pianta, R.C., & Marvin, R.S. (2001). Mothers' representations of relationships with their children: Relations with parenting behavior, mother characteristics, and child disability status. *Social Development, 10*(4), 455-472.
- Calzada, E.J., Brotman, L.M., Huang, K., Chava, Y., & Kingston, S. (2009). Parent ethnic adaptation and child functioning in culturally diverse, urban families of preschoolers. *Journal of Applied Developmental Psychology, 30*, 515-534.
- Calzada, E.J. & Eyberg, S.M. (2002). Self-reported parenting practices in Dominican and Puerto Rican mothers of young children. *Journal of Child and Adolescent Psychology, 31*(3) 354-363.
- Calzada, E.J., Fernandez, Y., & Cortes, D.E. (2010). Incorporating the ethnic value of respeto into a framework of Latino parenting. *Ethnic Diversity and Ethnic Minority Psychology, 16*(1), 77-86.
- Campbell, S.B., Brownell, C.A., Hungerford, A., Spieker, S.J., Mohan, R., & Blessing, J.S. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology, 16*, 231-252.
- Candelaria, M., Teti, D.M., & Black, M.M. (2011). Multi-risk infants: Predicting attachment security from sociodemographic, psychosocial, and health risk among African-American preterm infants. *Journal of Child Psychology and Psychiatry, 52*(8), 870-877.

- Cauce, A., & Domenech-Rodríguez, M. (2002). Latino families: Myths and realities. In J. Contreras, A. Neal-Barnett & K. Kerns (Eds.), *Latino children and families in the United States* (pp. 3-26). Westport, CT: Praeger Publishers.
- Chao, R. & Kanatsu, A. (2008). Beyond socioeconomics: Explaining ethnic group differences in parenting through cultural and immigration processes. *Applied Developmental Science, 12*(4), 181-187.
- Chavira, V., Lopez, S.R., Blacher, J., & Shapiro, J., (2000). Mothers' attributions, emotions, and reactions to the problem behaviors of their children with developmental disabilities. *Journal of Child Psychology and Psychiatry, 41*(2) 245-252.
- Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoub, C., Pan, B.A., Kisher, E.E., ...& Fuligni, A.S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20*(6), 958-977.
- Childress, D.C. (2011). Play behaviors of parents and their young children with disabilities. *Topics in Early Childhood Special Education, 31*(2), 112-120.
- Christenson, S.L., & Sheridan, S.M. (2001). *Schools and families: Creating essential connections for learning*. New York, NY: Guilford Press.
- Conger, R. D. & Donnellan, M. B. (2007) An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology, 58*, 175-199.
- Coplan, R.J., Hastings, P.D., Lagace-Seguin, D.G., & Moulton, C.E. (2002). Authoritative and authoritarian mothers' parenting goals, attributions, and emotions across different childrearing contexts. *Parenting: Science and Practice, 2*(1), 1-26.
- Costigan, C.L., Floyd, F.J., Harter, K.S.M., & McClintock (1997). Family processes and adaptation to children with mental retardation: Disruption and resilience in family problem-solving interactions. *Journal of Family Psychology, 11*(4), 515-529.
- Cote, L.R. & Bornstein, M.H. (2009). Child and mother play in three U.S. ethnic groups: Comparisons and Associations. *Journal of Family Psychology, 23*(3), 255-363.
- Cote, L.R., Bornstein, M.H., & Haynes, M. (2008). Mother-infant person- and object-directed interactions in Latino immigrant families: A comparative approach. *Infancy, 13*(4), 338-365.

- Cress, C. J., Moskal, L., & Hoffman, A. (2008). Parent directiveness in free play with young children with physical impairments. *Communication Disorders Quarterly*, 29, 99–108.
- Crnic K. A., Gaze C. & Hoffman C. (2005) Cumulative parenting stress across the preschool period: relations to maternal parenting and child behavior at age 5. *Infant and Child Development Special Issue: Parenting Stress and Children's Development* 14, 117-132.
- Cruz-Santiago, M. & Ramirez-Garcia, J.I.R. (2011). Hay que ponerse en los zapatos del joven: Adaptive parenting of adolescent children among Mexican-American parents residing in a dangerous neighborhood. *Family Process*, 50(1), 92-114.
- Cummings, E. M., & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35, 73–112.
- Cuskelly, M., Jobling, A. Gilmore, L., & Glenn, S. (2006). Parental strategies for assisting children to wait. *Down Syndrome Research and Practice*, 11(2), 55-63.
- Denham, S. A., Workman, E., Cole, P. M., Weissbrod, C., Kendziora, K. T., & Zahn-Waxler, C. (2000). Prediction of externalizing behavior problems from early to middle childhood: The role of parental socialization and emotion expression. *Development and Psychopathology*, 12, 23–45.
- Dix, T., Gershoff, E. T., Meunier, L. N., & Miller, P. C. (2004). The affective structure of supportive parenting: Depression symptoms, immediate emotions, and child-oriented motivation. *Developmental Psychology*, 40, 1212–1227.
- Dougall A. L., Hyman K. B., Hayward M. C., McFeeley S. & Baum A. (2001). Optimism and traumatic stress: The importance of social support and coping. *Journal of Applied Social Psychology* 31, 223-245.
- Eamon, M.K. (2005). Social-demographic, school, and neighborhood, and parenting influences on the academic achievement of Latino youth adolescents. *Journal of Youth and Adolescence*, 34(2), 163-174.
- Eisenhower, A.S, Baker, B.L., & Blacher, J. (2005). Preschool children with intellectual disability: Syndrome specificity, behavior problems, and maternal-well-being. *Journal of Intellectual Disability Research*, 49(9), 657-671.
- Eisenhower, A. & Blacher, J. (2006). Mothers of young adults with intellectual disability: Multiple roles, ethnicity, and well-being, *Journal of Intellectual Disability Research*, 50(12), 905-916.

- Ekas, N.V., Lickenbrock, D.M., & Whitman, T.L. (2010). Optimism, social support, and well-being in mothers of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 40, 1274-1284.
- Ekas, N., Whitman, T. & Shovers, C. (2009). Religiosity, spirituality, and socioemotional functioning in mothers of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 706-719.
- Embregts, P., Grimbé du Bois, M., & Graef, N. (2010). Behavior problems in children with mild intellectual disabilities: An initial step towards prevention. *Research in Developmental Disabilities*, 31, 1398-1403.
- Emerson, E. (2003). Mothers of children and adolescents with intellectual disability: Social and economic situation, mental health status, and the self-assessed social and psychological impact of the child's difficulties. *Journal of Intellectual Disability Research*, 47(4/5), 385-399.
- Emerson E. (2004) Poverty and children with intellectual disabilities in the world's richer countries. *Journal of Intellectual and Developmental Disability*, 29, 319-337.
- Emerson, E. (2010). Self-reported exposure to disablism is associated with poorer self-reported health and well-being among adults with disabilities in England: A cross-sectional survey, *Public Health*, 124, 682-689.
- Emerson E. & Durvasula S. (2005). Health inequalities and people with intellectual disabilities: an introduction to the special issue. *Journal of Applied Research in Intellectual Disabilities*, 18, 95-106.
- Emerson, E., Einfeld, S., & Stancliffe, R.J. (2011). Predictors of the persistence of conduct difficulties in children with cognitive delay. *The Journal of Child Psychology and Child Psychiatry*, 52(11), 1184-1194.
- Emerson, E., Graham, H., McCulloch, A., Blacher, J., Hatton, C., & Llewellyn, G. (2009). The social context of parenting 3-year-old children with developmental delay in the UK. *Child: Care, Health, and Development*, 35(1), 63-70.
- Emerson, E. & Hatton, C. (2007). Poverty, socio-economic position, social capital and the health of children and adolescents with intellectual disabilities in Britain: A replication. *Journal of Intellectual Disability Research*, 51(11), 866-874.
- Emerson, E., Hatton, C., Llewellyn, G., Blacher, J., Graham, H. (2006). Socio-economic position, household composition, health status, and indicators of well-being in mothers of children with and without intellectual disabilities. *Journal of Intellectual Disability Research*, 50(12), 862-873.

- Emerson, E., Madden, R., Graham, H., Llewellyn, G., Hatton, C., & Robertson, J. (2011). The health of disabled people and the social determinants of health. *Public Health, 125*(3), 145-147.
- Eshbaugh, E.M., Peterson, C.A., Wall, S., Carta, J., Luze, G., Swanson, M., Jeon, H. (2011). Low-income parents' warmth and parent-child activities for children with disabilities, suspected delays, and biological risks. *Infant and Child Development, 20*, 509-524.
- Feinfield, K.A. & Baker, B.L. (2004). Empirical support for a treatment program for families of young children with externalizing problems. *Journal of Clinical Child and Adolescent Psychology, 33*(1), 182-195.
- Fenning, R.M., Baker, J.K., Baker, B.L., & Crnic, K.A. (2007). Parenting children with borderline intellectual functioning: A unique risk population. *American Journal of Mental Retardation, 112*(2), 107-121.
- Figueroa-Mosley, C., Ramey, C.T., Keltner, B., & Lanzi, R.G. (2006). Variations in Latino parenting practices and their effects on child cognitive developmental outcomes. *Hispanic Journal of Behavioral Sciences, 28*(1), 102-114.
- Fischer, C., Harvey, E.A., & Driscoll, P., (2009). Parent-centered parenting values among Latin immigrant mothers. *Journal of Family Studies, 1*, 296-308.
- Floyd, F.J., Harer, K.S.M., & Costigan, C.L. (2004). Family problem solving with children who have mental retardation. *American Journal of Mental Retardation, 109*(6), 507-524.
- Floyd, F.J. & Phillippe, K.A. (1993). Parental interactions with children with and without mental retardation: Behavior management, coerciveness, and positive exchange. *American Journal on Mental Retardation, 97*, 673-684.
- Foster, C.E., Webster, M.C., Weissman, M.M., Pilowsky, D.J., Wickramaratne, P.J., Rush, A.J., ... & King, C.A. (2008). Course and severity of maternal depression: Associations with family functioning and child adjustment. *Journal of Youth and Adolescence, 37*, 906-916.
- Fujiura G. T. (1998). Demography of family households. *American Journal on Mental Retardation, 103*, 225-235.
- Fujiura G. T. & Yamaki K. (2000) Trends in demography of childhood poverty and disability. *Exceptional Children, 66*, 187-199.

- Fuller, B. & Coll, C.G. (2010). Learning from Latinos: Contexts, families, and child development in motion. *Developmental Psychology, 46*(3), 559-565.
- Gerstein, E.D., Crnic, K.A., Blacher, J., & Baker, B.L. (2009). Resilience and the course of daily parenting stress in families of young children with intellectual disabilities. *Journal of Intellectual Disability Research, 53*(12), 981-997.
- Ghazarian, S.R. & Roche, K.M. (2010). Social support and low-income, urban mothers: Longitudinal associations with adolescent delinquency. *Journal of Youth Adolescence, 39*, 1097-1108.
- Glidden, L.M., Bamberger, K.T., Turek, K.C., & Hill, K.L. (2010). Predicting mother/father-child interactions: Parental personality and well-being, socioeconomic variables, and child disability status. *Journal of Applied Research in Intellectual Disabilities, 23*, 3-13.
- Goldenberg, C. & Gallimore, R. (1995). Immigrant Latino parents' values and beliefs about their children's education: Continuities and discontinuities across cultures and generations. *Advances in Motivation and Achievement, 9*, 183-228.
- Gonzales-Ramos, G. & Zayas, L.H. (1998). Child-rearing values of low-income urban Puerto Rican mothers of preschool children. *Professional Psychology: Research and Practice, 29*(4), 277-282.
- Greenberg, J.S., Seltzer, M.M., Hong, J., & Orsmond, G.I. (2006). Bidirectional effects of expressed emotion and behavior problems and symptoms in adolescents and adults with autism. *American Journal of Mental Retardation, 111*(4), 229-249.
- Griffith, G.M., Hastings, R.P., Nash, S., & Hill, C. (2010). Using matched groups to explore child behavior problems and maternal well-being in children with Down syndrome. *Journal of Autism and Developmental Disorders, 40*, 610-619.
- Guralnick, M.J., Neville, B., Hammond, M.A., & Connor, R.T. (2007). Linkages between delayed children's social interactions with mothers and peers. *Child Development, 78*(2), 459-473.
- Guralnick, M. J., Neville, B., Hammond, M. A., & Connor, R. T. (2008). Mothers' social communicative adjustments to young children with mild developmental delays. *American Journal of Mental Retardation, 113*, 1-18.
- Halgunseth, L.C., Ispa, J.M., & Rudy, D. (2006). Parental control in Latino families: An integrated review of the literature. *Child Development, 77*(5), 1282-1297.

- Harrison, A.O., Wilson, M.N., Pine, C.J., Chan, S.Q., & Buriel, R. (1990). Family ecologies of ethnic minority children. *Child Development, 61*, 347-362.
- Harvey, E.A., Metcalfe, L.A., Herbert, S.D., & Fanton, J.H. (2011). The role of family experiences and ADHD in the early development of oppositional defiant disorder. *Journal of Consulting and Clinical Psychology, 79*(6), 784-795.
- Harwood, R. L. (1992). The influence of culturally derived values on Anglo and Puerto Rican mothers' perceptions of attachment behavior. *Child Development, 63*, 822-839.
- Harwood, R.L., Schoelmerich, A., Schulze, P.A., & Gonzalez, Z. (1999). Ethnic differences in maternal beliefs and behaviors: A study of middle-class Anglo and Puerto Rican mother-infant pairs in four everyday situations. *Child Development, 70*(4), 1005-1016.
- Hastings, R.P. & Brown, T. (2002). Behavior problems of children with autism, parental self-efficacy, and mental health. *American Journal of Mental Retardation, 107*(3), 222-232.
- Hastings, R.P., Daley, D., Burns, C., & Beck, A. (2006). Maternal distress and expressed emotion: Cross-sectional and longitudinal relationships with behavior problems of children with intellectual disabilities. *American Journal of Mental Retardation, 111*(1), 48-61.
- Heiman, T. (2002). Parents of children with disabilities: Resilience, coping, and future expectations. *Journal of Developmental and Physical Disabilities, 14*(2), 159-171.
- Heller, T.L. & Baker, B.L. (2000). Maternal negativity and children's externalizing behavior. *Early Education and Development, 11*(4), 483-498.
- Hess, R. D., & Shipman, V. (1965). Early experiences and the socialization of cognitive modes in children. *Child Development, 36*, 868-886.
- Hill, N., Bush, K., & Roosa, M. (2003). Parenting and family socialization strategies and children's mental health: Low-income Mexican-American and Euro-American mothers and children. *Child Development, 74*, 189-204.
- Hoffman, C., Crnic, K.A., & Baker, J.K. (2006). Maternal depression and parenting: Implications for children's emergent emotion regulation and behavioral functioning. *Parenting: Science and Practice, 6*(4), 271-295.
- Holmbeck, G., Johnson, S.Z., Wills, K.E., McKernon, W., Rose, B., Erklin, S., & Kemper, T. (2002). Observed and perceived parental overprotection in relation to

psychosocial adjustment in preadolescents with physical disability: The meditational role of behavioral autonomy. *Journal of Consulting and Clinical Psychology, 70*(1), 96-110.

- Hyman, P. & Oliver, C. (2001). Causal explanations, concern and optimism regarding self-injurious behavior displayed by individuals with Cornelia de Lange syndrome: The parents' perspective. *Journal of Intellectual Disability Research, 45*(4), 326-334.
- Ipsa, J.M., Fine, M.A., Halgunseth, L.C., Harper, S., Robinson, J., Boyce, L., ... & Brady-Smith, C. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development, 75*(6), 1613-1631.
- Judge, S.L. (1998). Parental coping strategies and strengths in families of young children with disabilities. *Family Relations, 47*(3), 263-268.
- Kaiser, N.M., McBurnett, K., & Pfiffner, L.J. (2011). Child ADHD severity and positive and negative parenting as predictors of child social functioning: Evaluation of three theoretical models. *Journal of Attention Disorders, 15*(3), 193-203.
- Kamphaus, R.W. (2005). *Clinical assessment of child and adolescent intelligence*. Needham Heights, MA: Pearson.
- Karademas, E.C. (2006). Self-efficacy, social support and well-being: The mediating role of optimism. *Personal and Individual Differences, 40*, 1281-1290.
- Koenig, J.L., Barry, R.A., & Kochanska, G. (2010). Rearing difficult children: Parents' personality and children's proneness to anger as predictors of future parenting. *Parenting: Science and Practice, 10*, 358-273.
- Knight, G. P., Virgin, L. M., & Roosa, M. (1994). Socialization and family correlates of mental health outcomes among Hispanic and Anglo American children: Considerations of cross-ethnic scalar equivalence. *Child Development, 65*, 212 – 224.
- Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Responsive parenting: Establishing early foundations for social, communication, and independent problem-solving skills. *Developmental Psychology, 42*, 627–642.
- Landry, S. H., Smith, K. E., Swank, P. R., & Guttentag, C. (2008). A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. *Developmental Psychology, 44*, 1335–1353.

- Laghezza, L., Mazzeschi, C., Di Riso, D., Chessa, D., & Buratta, L. (2010). The five minute speech sample as a measure of parental expressed emotion in the field of disability. *Life Span and Disability, 13*(2), 169-186.
- Lambrechts, G., Leeuwen, K.V., Boonen, H., Maes, B., & Noens, I. (2011). Parenting behavior among parents of children with autism spectrum disorder. *Research in Autism Spectrum Disorders, 5*, 1143-1152.
- Laosa, L. M. (1980). Maternal teaching strategies in Chicano and Anglo-American families: The influence of ethnicity and education on maternal behavior. *Child Development, 51*, 759 – 765.
- Larson. E. (1998). Reframing the meaning of disability to families: The embrace of paradox. *Social Science and Medicine, 47*(7), 865-875.
- Lee, G.K. (2009). Parents of children with high functioning autism: How well do they cope and adjustment. *Journal of Developmental and Physical Disabilities, 21*, 93-114.
- Leidy, M.S., Guerra, N.G., & Toro, R.I. (2010). Positive parenting, family cohesion, and child social competence among immigrant Latino families. *Journal of Family Psychology, 24*(3), 252-260.
- Leonard B., Brust J. & Sapienza J. J. (1992) Financial and time costs to parents of severely disabled children. *Public Health Reports 107*, 302-312.
- Leonard H., Petterson B., De Klerk N., Zubrick S. R., Glasson E., Sanders R. & Bower C. (2005) Association of sociodemographic characteristics of children with intellectual disability in Western Australia. *Social Science and Medicine, 60*, 1499-1513.
- Leonard H. & Wen X. (2002). The epidemiology of mental retardation: challenges and opportunities in the new millennium. *Mental Retardation and Developmental Disabilities Research Reviews, 8*, 117-134.
- Livas-Dlott, A., Fuller, B., Stein, G.L., Bridges, M.M., Figueroa, A.M., & Mireles, L. (2010). Commands, competence, and carino: Maternal socialization practices in Mexican American families. *Developmental Psychology, 46*(3), 566-578.
- Lloyd, T. & Hastings, R.P. (2008). Psychological variables as correlates of adjustment mothers of children with intellectual disabilities: Cross sectional and longitudinal relationships. *Journal of Intellectual Disability Research, 52*(1), 37-48.

- Magana, S., Seltzer, M.M., & Krauss, M.W. (2004). Ethnic context of caregiving: Differences in depression between Puerto Rican and non-Latina white mothers of adults with mental retardation. *Mental Retardation*, 42(1), 1-11.
- Magana S., Seltzer M. M., Krauss M.W., Rubert M., & Szapocznik J. (2002). Well being and family role strains among Cuban American and Puerto Rican mothers of adults with mental retardation. *Journal of Human Behavior in the Social Environment*, 5, 31-55.
- Mahoney, G., Fors, S., & Wood, S. (1990). Maternal directive behavior revisited. *American Journal of Mental Retardation*, 94, 398-406.
- Marcoulides, G.A. & Heck, R.H. (2009). Educational applications of latent growth mixture models. In T. Theo & M.S. Khine (Eds). *Structural Equation Modeling in Educational Research: Concepts and Applications* (pp. 345-366). Rotterdam, Boston, Taipei: Sense Publishers.
- McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 61, 311–346.
- McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53(2), 185-204.
- Medora, N., Wilson, S., & Larson, J., (2001). Attitudes toward parenting strategies, potential for child abuse, and parental satisfaction of ethnically diverse low-income U.S. mothers. *Journal of Social Psychology*, 141, 335-348.
- Meirsschaut, M., Roeyers, H., & Warreyn, P. (2010). Parenting in families with a child with autism spectrum disorder and a typically developing child: Mothers' experiences and cognitions. *Research in Autism Spectrum Disorders*, 4, 661-669.
- Merrell, K.W. (2009). *Behavioral, social, and emotional assessment of children and adolescents*. New York, NY: Routledge.
- Meyers M. K., Lukemeyer A. & Smeeding T. (1998) The cost of caring: childhood disability and poor families. *Social Service Review* 72, 209-233.
- Mills, R., & Rubin K. H. (1992). A longitudinal study of maternal beliefs about children's social behaviors. *Merrill-Palmer Quarterly*, 38, 494–512.
- Mitchell, D.B. & Hauser-Cram, P. (2010). Early childhood predictors of mothers' and father's relationships with adolescents with developmental disabilities. *Journal of Intellectual Disability Research*, 54(6), 487-500.

- Molen, E., Hipwell, A.E., Vermeiren, R., & Loeber, R. (2011). Maternal characteristics predicting young girls' disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 40*(2), 179-190.
- Moreno, R. (1997). Everyday instruction: A comparison of Mexican American and Anglo mothers and their pre- school children. *Hispanic Journal of Behavioral Sciences, 19*, 527-540.
- Muthen, L.K. & Muthen, B.O. (2002). *How to use a monte carlo study to decide on sample size and determine power*. Retrieved from <http://www.statmodel.com/download/FinalSEMsingle.pdf>
- Muthen, L.K. & Muthen, B.O. (2006). *Mplus user's guide*. Los Angeles, CA: Muthen & Muthen.
- Nadeem, E., Romo, L.F., Sigman, M., Lefkowitz, E.S., & Au, T.K. (2007). The validity of observational measures in detecting optimal maternal communication styles: Evidence from European Americans and Latinos. *Journal of Research on Adolescence, 17*(1), 153-168.
- Neely-Barnes & Marcenko (2004). Predicting impact of childhood disabilities in families: Results from the 1995 national health interview survey disability supplement. *Mental Retardation, 42*(4), 284-293.
- Nelson, L.J., Padilla-Walker, L.M., Christensen, K.J., Evans, C.A., & Carroll, J.S. (2011). Parenting in emerging adulthood: An examination of parenting clusters and correlates. *Journal of Youth and Adolescence, 40*, 730-743.
- Olason D. T. & Roger D. (2001) Optimism, pessimism and fighting spirit: A new approach to assessing expectancy and adaptation. *Personality and Individual Differences, 31*, 755-768.
- Olsson, M.B. & Hwang, C.P. (2001). Depression in mothers and fathers of children with intellectual disability. *Journal of Intellectual Disability Research, 45*(6), 535-543.
- Olsson, M.B. & Hwang, C.P. (2002). Sense of coherence in parents of children with different developmental disabilities. *Journal of Intellectual Disability Research, 46*, 548-559.
- Padilla-Walker, L.M., Bean, R.A., & Hsieh, A.L. (2011). The role of parenting and personal characteristics on deviant peer associations among European American and Latino adolescents. *Children and Youth Services Review, 33*, 2034-2042.

- Paczkowski, E. & Baker, B.L. (2007). Parenting children with and without developmental delays: The role of self-mastery. *Journal of Intellectual Disability Research, 51*(6), 435-446.
- Paczkowski, E. & Baker, B.L. (2008). Parenting children with developmental delays: The role of positive beliefs. *Journal of Mental Health Research, 1*, 156-175.
- Pagano, M.E., Hirsch, B.J., Deutch, N.L., & McAdams, D.P. (2003). The transmission of values to school-age and young-adult off-spring. *Journal of Feminist Family Therapy, 14*(3/4), 13-36.
- Park, S., Belsky, J., Putnam, S., & Crnic, K. (1997). Infant emotionality, parenting, and 3-year inhibition: Exploring stability and lawful discontinuity in a male sample. *Developmental Psychology, 22*(2), 218-227.
- Parke, D.P., Coltrane, S., Duffy, S., Buriel, R., Dennis, J., Powers, J., ... & Widaman, K.F. (2004). Economic stress, parenting, and child adjustment in Mexican American and European American families. *Child Development, 75*(6), 1632-1656.
- Pelchat, D. Bisson, J., Bois, C., & Saucier, J. (2003). The effects of early relational antecedents and other factors on parental sensitivity of mothers and fathers. *Infant and Child Development, 12*, 27-51.
- Perez, M.E. & Fox, R.A. (2008). Parenting Latino toddlers and preschoolers: Clinical and nonclinical samples. *Hispanic Journal of Behavioral Sciences, 30*(4), 481-499.
- Pew Hispanic Center (2006). *The changing landscape of American public education: New students, new schools*. Washington, DC. Retrieved from <http://pewhispanic.org/files/reports/72.pdf>
- Planos, R., Zayas, L. H., & Busch-Rossnagel, N. A. (1997). Mental health factors and teaching behaviors among low-income Hispanic mothers. *Families in Society, 78*, 4-12.
- Porterfield S. L. (2002) Work choices of mothers in families with children with disabilities. *Journal of Marriage and Family 64*, 972-981.
- Poston, D.J. & Turnbull (2004). Spirituality and religion in family quality of life for families of children with disabilities. *Education and Training in Developmental Disabilities, 39*(2), 95-108.
- Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

- Raviv, T., Kessenich, M., & Morrison, F.J. (2004). A mediational model of the association between socioeconomic status and three-year old language abilities: The role of parenting factors. *Early Childhood Research Quarterly, 19*, 528-547.
- Raykov, T., & Marcoulides, G.A. (2006). *A first course in structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.
- Raykov, T., & Marcoulides, G.A. (2008). *An introduction to applied multivariate analysis*. New York, NY: Routledge Press.
- Reese, L. (2002). Parental strategies in contrasting ethnic settings: Families in Mexico and “el norte”. *Anthropology and Education Quarterly, 33*(1), 30-59.
- Reese, L. & Gallimore, R. (2000). Immigrant Latinos’ cultural model of literacy development: An evolving perspective on home-school discontinuities. *American Journal of Education, 108*(2), 103-134.
- Sabogal, F., Marin, G., Otero-Sabogal, R., Marin, B., & Perez-Stable (1987). Hispanic familismo and acculturation. What changes and what doesn’t? *Hispanic Journal of Behavioral Sciences, 9*, 397-412.
- Sanders, K.Y. (2006). Overprotection and lowered expectations of persons with disabilities: The unforeseen consequences. *Journal of Prevention, Assessment and Rehabilitation, 27*, 181-188.
- Scheier M. F. & Carver C. S. (1985) Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.
- Scheier, M.F., Carver, C.S., & Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*(6), 1063-1078.
- Schmitz, M. (2005). Ethnic and acculturation differences in trajectory of home environment inventory scores for Latino children and families. *Journal of Family Issues, 26*(5), 568-583.
- Schulze, P.A., Harwood, R.L., Schoelmerich, A., & Leyendecker, B. (2002). The ethnic structuring of parenting and universal developmental tasks. *Parenting: Science and Practice, 2*(2), 151-178.
- Seegerstrom, S.C. (2001). Optimism and attentional bias for negative and positive stimuli. *Personality and Social Psychology Bulletin, 27*, 1334-1343.

- Shapiro, J., Monzo, L.D., Rueda, R., Gomez, J.A., & Blacher, J. (2004). Alienated Advocacy: Perspectives of Latina mothers of young adults with developmental disabilities on service systems. *Mental Retardation*, 42(1), 37-54.
- Sheridan, S.M., Taylor, A.M., & Woods, K.E. (2008). Best practices for working with families: Instilling a family-centered approach. In A. Thomas & J. Grimes (Eds). *Best Practices in School Psychology*, 5, 995-1008.
- Simpkins, S.D., Bouffard, S.M., & Dearing, E. (2009). Adolescent adjustment and patterns of parents' behaviors in early and middle adolescence. *Journal of Research on Adolescence*, 19(3), 530-557.
- Skinner, D.G., Correa, V., Skinner, M., & Bailey, D.B. (2001): Role of religion in the lives of Latino families of young children with developmental delays. *American Journal of Mental Retardation*, 106(4), 297-313.
- Smith, T.B., Innocenti, M.S., Boyce, G.C., & Smith, C.S. (1993). Depressive symptomatology and interaction behaviors of mothers having a child with disabilities. *Psychological Reports*, 73, 1184-1186.
- Smith, K. E., Landry, S. H., & Swank, P. R. (2009). The influence of early patterns of positive parenting on children's preschool outcomes. *Early Education and Development*, 11, 147-169.
- Solmeyer, A.R., Killoren, S.E., McHale, S.M., & Updegraff, K.A. (2011). Coparenting around siblings' differential treatment in Mexican-origin families. *Journal of Family Psychology*, 25(2), 251-260.
- Stewart, S.M., Zaman, R.M., & Dar, R. (2006). Autonomy as a psychological need: Perceptions of Pakistani mothers. *Psychology and Developing Societies*, 18(2), 227- 239.
- Stoneman, Z. (2007). Examining the Down syndrome advantage: Mothers and fathers of young children with disabilities. *Journal of Intellectual Disability Research*, 51(12), 1006-1017.
- Taunt, H.M. & Hastings, R.P. (2002). Positive impact of children with developmental disabilities in their families: A preliminary study. *Education and Training in Mental Retardation and Developmental Disabilities*, 27(4), 410-420.
- Taylor, R. (2011). Kin support and parenting practices among low-income African American mothers: Moderating effects of mothers' psychological adjustment. *Journal of Black Psychology*, 37(1), 3-23.

- Taylor, Z.E., Larsen-Rife, D., Conger, R.D., Widaman, K.F., & Cutrona, C.E. (2010). Life stress, maternal optimism, and adolescent competence in single mother, African American families. *Journal of Family Psychology, 24*(4), 468-477.
- Todd, S. & Jones, S. (2005). Looking at the future and seeing the past: The challenge of the middle years of parenting a child with intellectual disabilities. *Journal of Intellectual Disability Research, 49*(6), 389-404.
- Turney, K. (2011). Labored love: Examining the link between maternal depression and parenting behaviors. *Social Science Research, 40*, 399-415.
- U.S. Bureau of Census (2010). *The Hispanic Population: 2010*. Washington, DC: U.S. Government Printing Office. Retrieved from November 18, 2011 from <http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf>
- U.S. Department of Education (2002). *Twenty-fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act*. Washington, DC: U.S. Government Printing Office. Retrieved November 18, 2011 from <http://www2.ed.gov/about/reports/annual/osep/2002/index.html>.
- U.S. Department of Education (2004). *Building the legacy: IDEIA 2004*. Washington, DC: U.S. Government Printing Office. Retrieved November 18, 2011 from <http://idea.ed.gov/>.
- Valdes, G. (1996). *Con Respeto: Bridging the distances between culturally diverse families and schools. An ethnographic portrait*. New York: Teachers College Press.
- Wagner, K.D., Ritt-Olson, A., Soto, D.W., Rodriguez, Y.L., Baezconde-Garbanati, L., & Unger, J.B. (2008). The role of acculturation, parenting, and family in Hispanic/Latino adolescent substance use: Findings from a qualitative analysis. *Journal of Ethnicity in Substance Abuse, 7*(3), 304-327.
- Warren, S.T. & Brady, N.C. (2007). The role of maternal responsivity in the development of children with intellectual disabilities. *Mental Retardation and Developmental Disabilities, 13*, 330-338.
- Wearden, A.J., Tarrier, N., Barrowclough, C., Zastowny, T.R., & Rahill, A.A. (2000). Review of expressed emotion research in health care. *Clinical Psychology Review, 20*(5), 633-666.
- White, N. & Hastings, R.P. (2004). Social and professional support for parents of adolescents with severe intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 17*, 181-190.

Yaman, A., Mesman, J., Ijzendoorn, M.M.V., Bakermans-Kranenburg, M.J., & Linting, M. (2010). Parenting in an individualistic ethnicity with a collectivistic ethnic background: The case of Turkish immigrant families with toddlers in the Netherlands. *Journal of Child and Family Studies*, 19, 617-628.

Table 1

Demographic Characteristics by Ethnic Status

Variable	Anglo (n=168)	Latino (n=51)	χ^2 or t ^a
Child			
Mean age at testing (SD)	34.94 (2.80)	35.57 (3.14)	t = -1.35 [-.33, 1.59]
Gender (% boys)	59.10%	57.10%	$\chi^2 = .06$ [-.17, .13]
Health (% in good/excellent)	93.50%	89.80%	$\chi^2 = .75$ [-.13, .05]
Mother and Family			
Marital status (% married)	87.00%	75.50%	$\chi^2 = 3.70^\dagger$ [-.24, .01]
Employment (%)	57.10%	59.20%	$\chi^2 = .06$ [-.13, .18]
Education (number of grades)	15.30 (2.47)	13.50 (2.58)	t = 4.54*** [-2.60, -1.00]
More than one child (%)	72.70%	77.60%	$\chi^2 = .45$ [-.08, .18]
Family income (%50k or higher)	52.90%	36.70%	$\chi^2 = 3.90^*$ [-.31, -.01]

Note. ^ats are used when standard deviations are reported.

†p<.10, *p<.05, **p<.01, ***p<.001

Numbers in brackets refer to confidence intervals

Table 2

Correlation Matrix for Positive Parenting

Time point	1	2	3	4	5	6
1. PP Age 3	1					
2. PP Age 4	.53**	1				
3. PP Age 5	.53**	.56**	1			
4. PP Age 6	.43**	.47**	.56**	1		
5. PP Age 7	.43**	.40**	.49**	.57**	1	
6. PP Age 8	.37**	.24**	.38**	.33**	.48**	1

Note. PP= Positive Parenting.
 **p<.01.

Table 3

Correlation Matrix for Negative Parenting

Time point	1	2	3	4	5	6
1. NP Age 3	1					
2. NP Age 4	.47**	1				
3. NP Age 5	.33**	.58**	1			
4. NP Age 6	.43**	.42**	.49**	1		
5. NP Age 7	.31**	.27**	.33**	.36**	1	
6. NP Age 8	.35**	.21*	.18*	.31**	.36**	1

Note. NP= Negative Parenting.

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

Table 4

Inter-Correlations between Positive Parenting and Potential Covariates

Time Point	Mothers' Education	Family Income	SES
PP Age 3	.35**	.28**	.32**
PP Age 4	.25**	.16*	.04
PP Age 5	.26**	.22**	.12
PP Age 6	.25**	.10	-.12
PP Age 7	.22**	.31**	.08
PP Age 8	.31**	.34**	.36**
Mean Correlation	.27	.24	.13

Note. PP= Positive Parenting.

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

Table 5

Inter-correlations between Negative Parenting and Potential Covariates

Time Point	Mothers' Education	Family Income	SES
NP Age 3	-.09	-.17*	-.07
NP Age 4	-.13	-.20**	-.09
NP Age 5	-.14	-.09	-.06
NP Age 6	.03	.01	.29**
NP Age 7	-.16**	-.15	-.20†
NP Age 8	-.23	-.03	-.02
Mean Correlation	-.12	-.11	-.03

Note. NP= Negative Parenting
 †p<.10, *p<.05, **p<.01.

Table 6

Descriptive Statistics for Mothers' Positive Parenting

Variable	Mean	Standard Deviation
Positive Parenting		
Y1= Positive parenting at age 3	10.91	3.03
Y2= Positive parenting at age 4	10.51	2.89
Y3= Positive parenting at age 5	10.25	2.72
Y4= Positive parenting at age 6	10.01	2.66
Y5= Positive parenting at age 7	11.98	2.78
Y6= Positive parenting at age 8	12.59	3.02

Table 7

Factor Loadings and Mean Value Parameter Estimates, Standard Errors, and Critical t Ratios for Unconditional Positive Parenting Model

Variable	Estimate	Standard Error	Critical Ratio
Positive Parenting			
Y1= Positive parenting at age 3	0=		
Y2= Positive parenting at age 4	0=		
Y3= Positive parenting at age 5	-.22*	.10	-2.26
Y4= Positive parenting at age 6	-.31**	.12	-2.66
Y5= Positive parenting at age 7	.65***	.10	6.48
Y6= Positive parenting at age 8	1=		
Mean value on Level Factor	10.67***	.18	60.15
Mean value on Shape Factor	1.98***	.24	8.32

†p<.10; *p < .05; **p < .01; ***p<.001

Table 8

Conditional Coefficient Estimates with Mothers' Education and Family Income having a Direct Impact on Level and Shape Factors

	Unstandardized Estimate	Standard Error	Critical Ratio
Model to Explain Level Factor			
Mothers' Education	.20**	.07	2.98
Family Income	.14	.21	.68
Ethnic Status	-.32	.34	-.92
Disability Status	-.18	.29	-.63
Maternal Depressive Symptoms	-.04*	.02	-2.19
Maternal Optimism	.07†	.03	1.84
Model to Explain Shape Factor			
Mothers' Education	-.09	.08	-1.15
Family Income	.66**	.24	2.72
Ethnic Status	-.13	.41	-.31
Disability Status	.13	.34	.38
Maternal Depressive Symptoms	.02	.02	.93
Maternal Optimism	.07†	.04	1.76

†p<.10; *p<.05; **p<.01; ***p<.001

Table 9

Bayesian Information Criterion (BIC) Index and Final Classification for Latent Class Models

Model	BIC Index	Classes	Final Classification
One Class Model	1557.06	-	
Two Class Model	1483.73	Class 1	48.40%
		Class 2	51.60%
Three Class Model	1499.15	-	

Table 10

Latent Growth Mixture Model Results with Mothers' Education and Family Income having an Indirect Impact on the Level and Shape Factors

	Unstandardized Estimate	Standard Error	Critical Ratio
Class Invariant Estimates			
Model to Explain Level Factor			
Ethnic status	-.64†	.37	-1.75
Disability Status	-.50†	.29	-1.72
Maternal Depressive Symptoms	-.01	.03	-.43
Maternal Optimism	.10*	.04	2.24
Model to Explain Shape Factor			
Ethnic status	-.28	.34	-.80
Disability Status	.03	.34	.07
Maternal Depressive Symptoms	-.004	.06	-.06
Maternal Optimism	.08*	.04	1.98
Logistic Regression Model (Category 1= Reference group)			
Mothers' Education	.07	.10	.74
Family Income	.63†	.39	1.64
Class Specific Level and Shape			
Class #1			
Level	9.17***	.13	72.70
Shape	1.97***	.07	28.14
Class #2			
Level	10.99***	.13	86.54
Shape	1.92***	.07	27.43

†p<.10; *p < .05; **p < .01; ***p<.001

Table 11

Latent Growth Mixture Model Results with Mothers' Education and Family Income having a Direct and Indirect Impact on the Level and Shape Factors

	Unstandardized Estimate	Standard Error	Critical Ratio
Class Invariant Estimates			
Model to Explain Level Factor			
Mothers' Education	.21**	.07	3.08
Family Income	.13	.22	.59
Ethnic Status	-.31	.36	-.84
Disability Status	-.23	.29	-.81
Maternal Depressive Symptoms	-.007	.03	-.21
Maternal Optimism	.07	.04	1.50
Model to Explain Shape Factor			
Mothers' Education	-.10	.07	-1.37
Family Income	.67**	.24	2.77
Ethnic Status	-.15	.37	-.41
Disability Status	.11	.34	.32
Maternal Depressive Symptoms	-.001	.05	-.03
Maternal Optimism	.08†	.04	1.85
Logistic Regression Model (Category 1= Reference group)			
Mothers' Education	.06	.10	.61
Family Income	.65†	.37	1.77
Class Specific Level and Shape			
Class #1			
Level	9.16***	.12	73.87
Shape	1.95***	.07	29.1
Class #2			
Level	10.99***	.13	88.92
Shape	1.91***	.07	28.50

†p<.10; *p < .05; **p < .01; ***p<.001

Table 12

Akaike Information Criterion (AIC) Index for Proposed Conditional and LGMM Models

Model	AIC Index
Conditional Model (Direct Impact of Covariates)	9449.86
LGMM Model (Indirect Impact of Covariates)	7424.62
LGMM Model (Direct & Indirect Impact of Covariates)	7409.97

Table 13

Descriptive Statistics for Mothers' Negative Parenting

Variable	M	SD
Negative Parenting		
Y1= Negative parenting at age 3	3.04	0.93
Y2= Negative parenting at age 4	3.09	1.04
Y3= Negative parenting at age 5	3.35	1.33
Y4= Negative parenting at age 6	3.39	1.2
Y5= Negative parenting at age 7	3.31	1.15
Y6= Negative parenting at age 8	2.87	0.96

Table 14

Hierarchical Multiple Regression Model for Negative Parenting

Variable	Unstandardized Estimate	Standard Error	Critical Ratio
Step 1			
Mothers' Education	.03	.04	.35
Family Income	-.14	.11	.21
R ²		.03	
Step 2			
Ethnic Status	.18	.18	.32
Disability Status	.14	.16	.40
R ²		.04	
Step 3			
Maternal Depressive Symptoms	.01	.01	.54
Maternal Optimism	-.01	.02	.61
R ²		.04	

†p<.10; *p < .05; **p < .01; ***p<.001

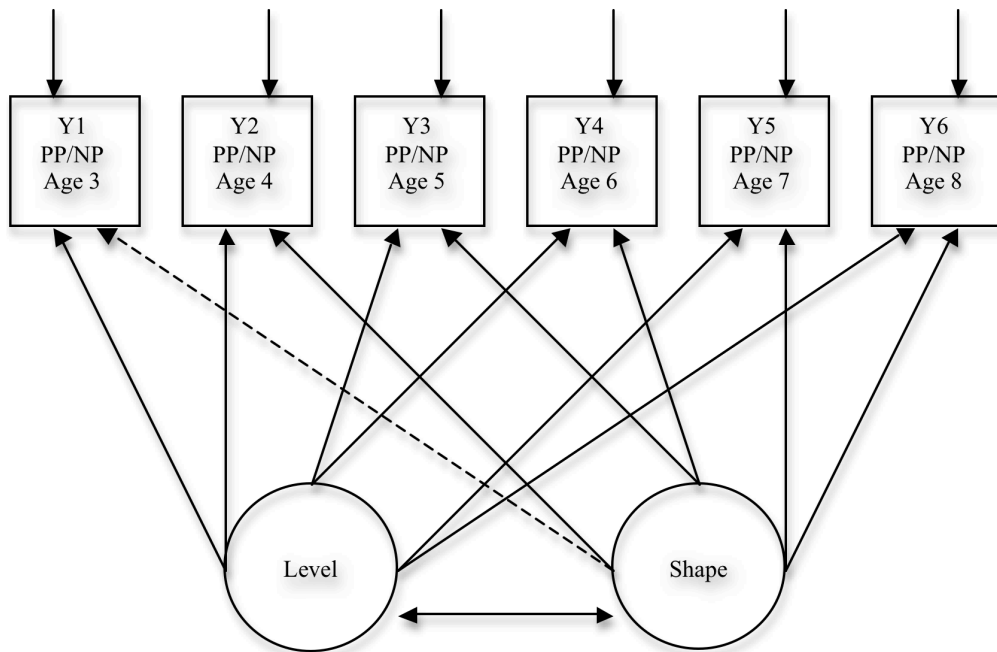


Figure 1. Proposed Unconditional Model for Positive Parenting (PP) and Negative Parenting (NP)

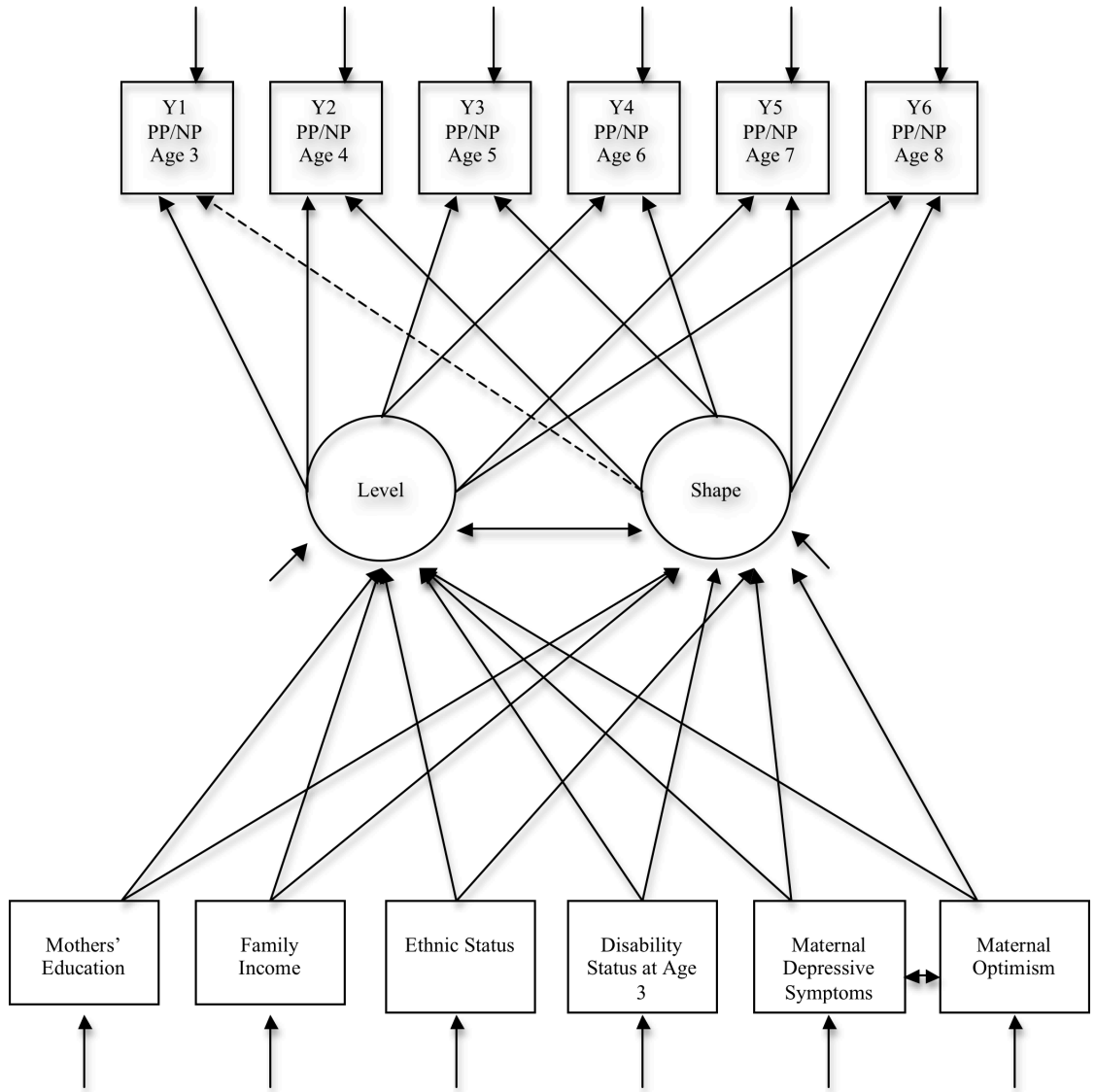


Figure 2. Proposed Conditional Model for Positive Parenting (PP) and Negative Parenting (NP).

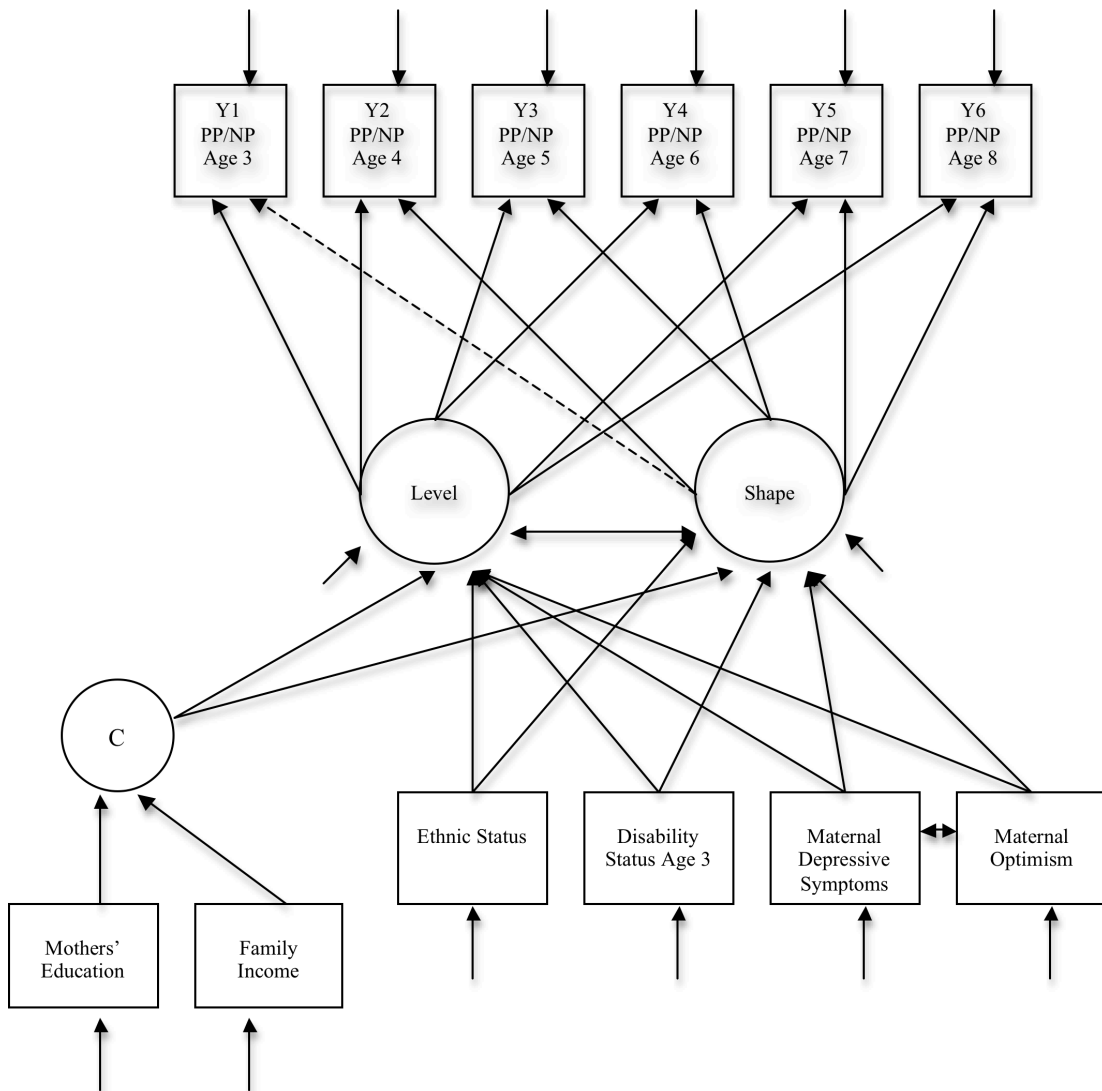


Figure 3. Proposed Latent Growth Mixture Model with Mother's Education and Family Income having an Indirect Effect on Level and Shape of Positive Parenting (PP) and Negative Parenting (NP).

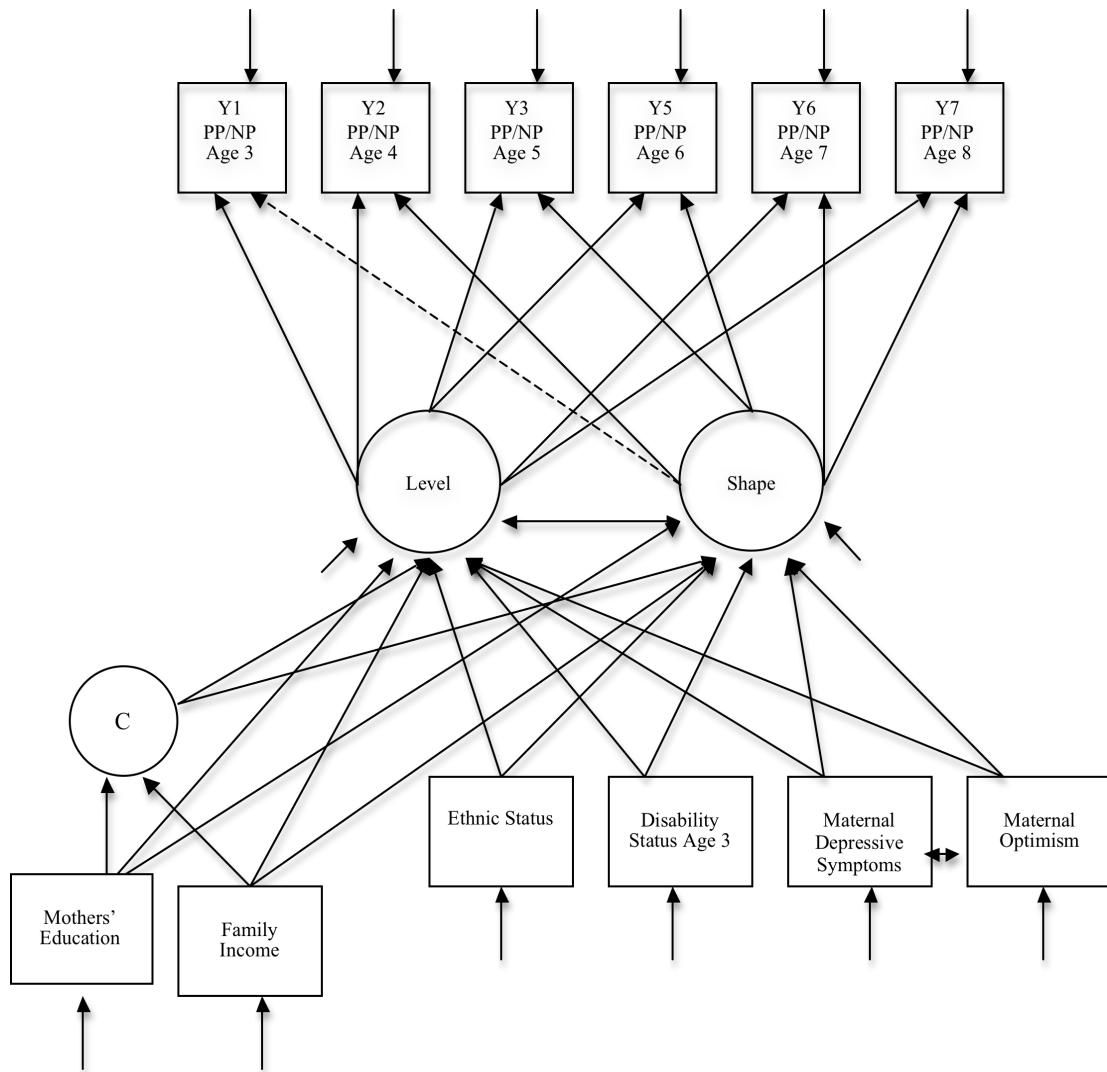


Figure 4. Proposed Latent Growth Mixture Model with Mothers' Education and Family Income having Direct and Indirect Effects on Level and Shape of Positive Parenting (PP) and Negative Parenting (NP).

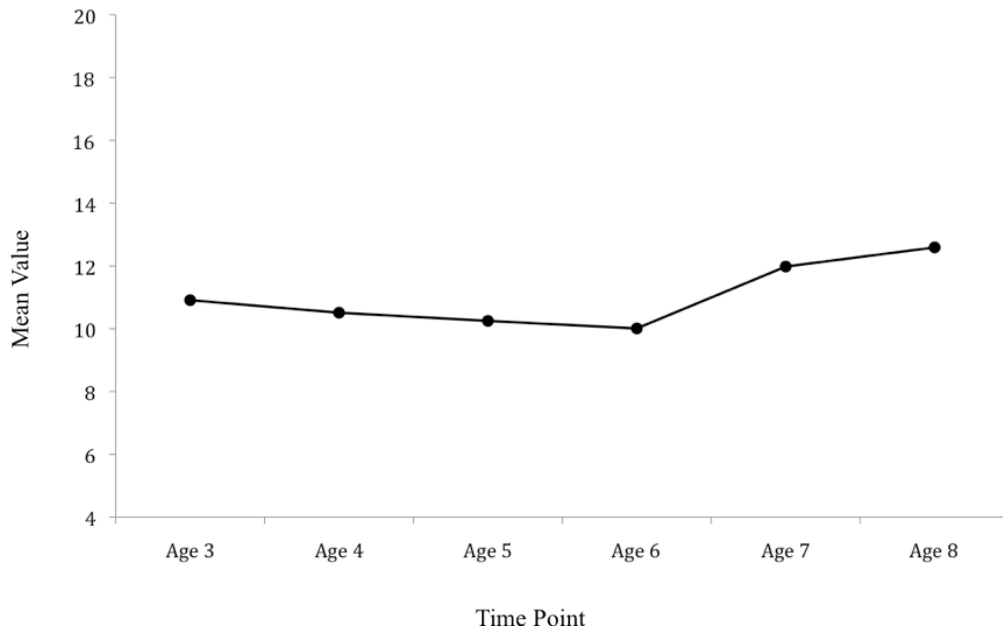


Figure 5. Estimated Means for Positive Parenting

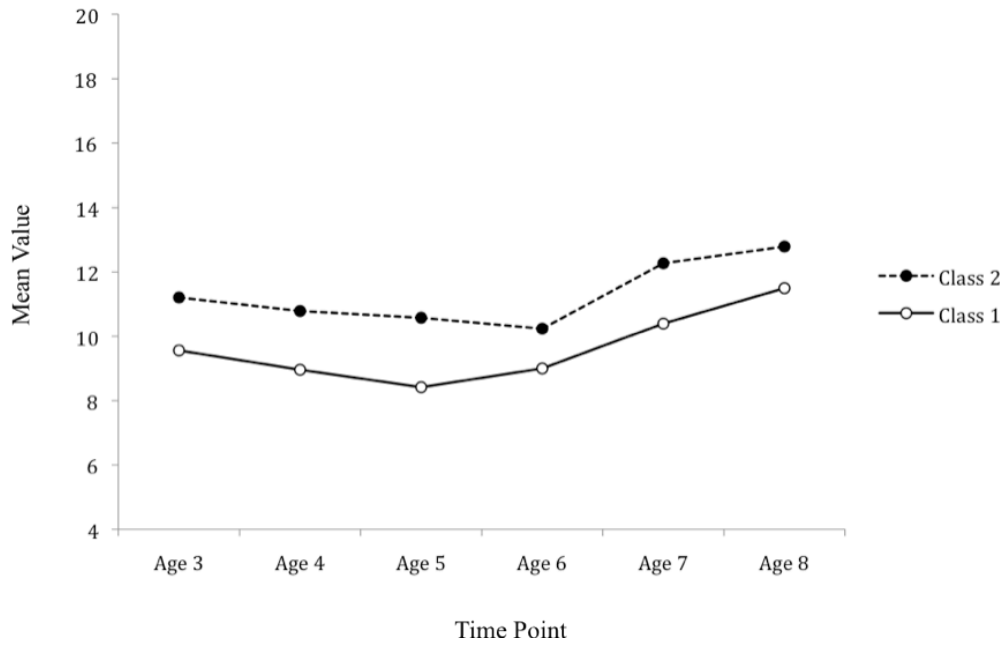


Figure 6. Estimated Latent Class Means and Growth Trajectories for LGMM with Mothers' Education and Family Income having a Direct and Indirect Impact on the Level and Shape factors for Positive Parenting.

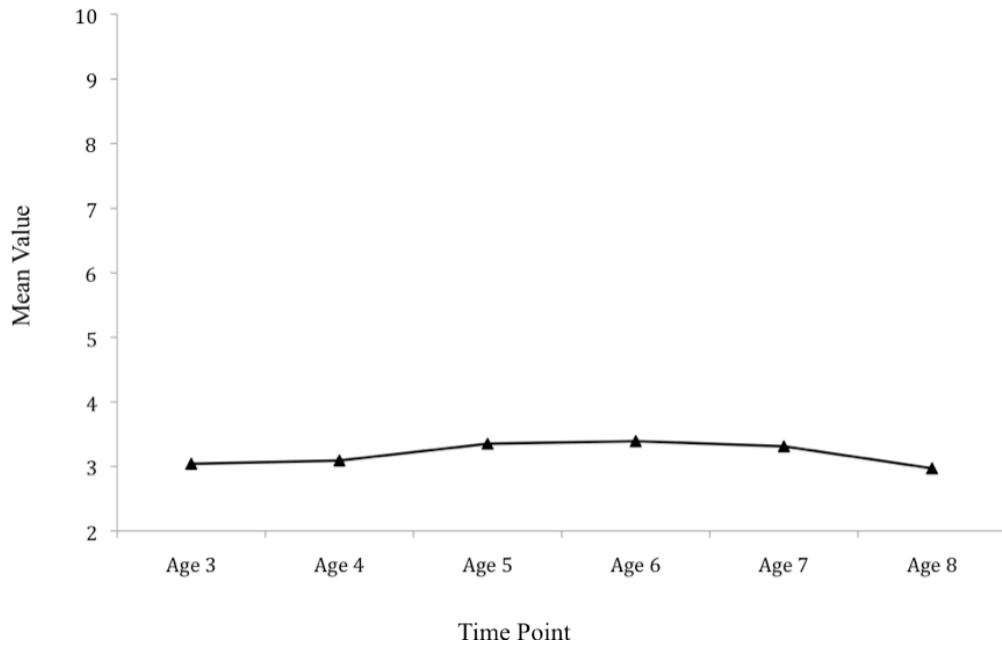


Figure 7. Estimated Means for Negative Parenting