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UNIVERSITY OF CALIFORNIA

Los Angeles

Resilient Parenting of Children at Developmental Risk

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Psychology

by

Ruth Whitney Ellingsen

2016

ABSTRACT OF THE DISSERTATION

Resilient Parenting of Children at Developmental Risk

by

Ruth Whitney Ellingsen

Doctor of Philosophy in Psychology

University of California, Los Angeles, 2016

Professor Bruce L. Baker, Chair

Previous research has provided consistent evidence that positive parenting is a strong protective factor for children at risk, yet little is known about what factors lead to positive parenting. Parenting dimensions are almost always predictor variables and rarely outcomes, so that we know little about how it is that parents facing formidable challenges are still able to function reasonably well. Given the great benefits of positive parenting to child development under normal circumstances, and the even greater benefits in the face of risk, it is important to understand why some parents manage to be effective in their interactions with their child despite facing formidable challenges (i.e. resilient parenting). The purpose of this investigation was to examine factors that promote positive parenting in the presence of child and economic risk in various developmental periods. The first study examined resilient parenting in early childhood (age 3-5), and the second replicated the model to assess risk and protective factors for positive parenting in middle childhood (age 5-8). The third study assessed resilient parenting in

adolescence (age 13-15) and examined additional risk and protective factors pertaining to this particular developmental period, utilizing additional measures and both quantitative and qualitative methods. The third study also examined an additional sample of youth with autism spectrum disorder (ASD). Results from the first two studies indicated that parenting is less positive given child and economic risk factors, but also that mother attributes (e.g., optimism) can buffer this risk-poorer parenting relationship in early and middle childhood. Results from the third study suggested that parenting is less influenced by child and economic risk factors in adolescence. Comparison of mothers with and without children with developmental disabilities revealed similar levels of positive parenting, but factors that reportedly promoted positive parenting differed between the groups, particularly in the domain of social support. A focus on resilient parenting directs attention toward promoting positive parent cognitions and providing resources to build parenting strengths, which fits well with the current interest in more positive approaches to family support.

The dissertation of Ruth Whitney Ellingsen is approved.

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Acknowledgments

This paper was based on the activities of the Collaborative Family Study, supported by the Eunice Kennedy Shriver National Institute for Child Health and Human Development, Grant number: 34879-1459 (Principal Investigators, Bruce L. Baker, Jan Blacher, Keith Crnic).

The author would like to thank the co-authors for their contributions given that portions of this manuscript appear in the following articles.

Chapter II is a version of:

Ellingsen, R., Baker, B. L., Blacher, J., & Crnic, K. (2014). Resilient parenting of preschool children at developmental risk. *Journal of Intellectual Disability Research*, 58, 664-678. DOI:10.1111/jir.12063

Chapter III is a version of:

Ellingsen, R., Baker, B. L., Blacher, J., & Crnic, K. (2014). Resilient parenting of children at developmental risk across middle childhood. *Research in Developmental Disabilities*, 35, 1364-1374. DOI: 10.1016/j.ridd.2014.03.016

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INVITED BOOK CHAPTERS

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SELECTED PRESENTATIONS

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Ellingsen, R., & Baker, B. L. (2013, March). *Resilient parenting of children with intellectual disability across middle childhood*. Paper presented at the 46th Annual Gatlinburg Conference, San Antonio, TX.

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CHAPTER I. Introduction

Over the past several decades researchers have used the concept of resilience as a way to study the processes and mechanisms through which exposure to risk factors may, in some cases, still be associated with positive outcomes. Whereas the traditional focus in child and family psychology research has been problems or deficits that needed to be remedied, the shift to a resilience framework has provided the opportunity to identify strengths and opportunities to build on. Resilience can take on many forms, but the two crucial conditions that must be present are 1) a significant threat or difficult circumstance, and 2) positive adaptation (Luthar, Cicchetti, & Becker, 2000). In short, resilience can be defined as doing better than expected in difficult circumstances. Windle (2011) proposed the following definition based on an extensive literature review and concept analysis: “Resilience is the process of negotiating, managing, and adapting to significant sources of stress or trauma. Assets and resources within the individual, their life, and environment facilitate this capacity for adaptation and ‘bouncing back’ in the face of adversity. Across the life course, the experience of resilience will vary.” Researchers have taken varied approaches to operationalizing this resilience construct. The “significant source of stress or trauma” ranges from single stressful life experiences to aggregates across multiple negative events. There has also been substantial diversity in defining “positive adaptation” among individuals at risk. Accordingly, specificity is important in discussing resilient outcomes (Luthar et al., 2000)

This dissertation focuses on the specific domain of parenting resilience, and involves three interrelated studies. What follows is a general introduction to all three studies. While most resilience research has focused on child outcomes, a focus on parenting outcomes is important as well, both in its own right and as it affects child outcomes. Across studies there is consistent

evidence that positive parenting is a strong protective factor for children at risk (Vanderbilt-Adriance & Shaw 2008; Burchinal, Roberts, Zeisel, Hennon, & Hooper, 2006; Howard & Johnson 2000; Brody, Yu, Chen, Kogan, Evans, et al., 2013; Luthar & Zelazo, 2003; Masten, 2001). Positive, supportive parenting helps children develop intrinsic resilient capacities and effective coping responses to stressors (Masten 2001; Howard & Johnson 2000). Yet little is known about what factors lead to positive parenting (Luthar, Sawyer, & Brown, 2006).

Parenting dimensions are almost always predictor variables and rarely outcomes, so that we know little about how it is that parents facing formidable challenges are still able to function reasonably well (Luthar et al., 2006). Given the great benefits of effective parenting to child development under normal circumstances, and the even greater benefits in the face of risk (Greenberg & Crnic 1988), it is important to understand why some parents manage to be effective in their interactions with their child despite considerable odds.

The resilience model for the current studies was developed with consideration to developmental theory as well as prominent features within the particular risk factors under study. There are several existing complex models of parenting (Bornstein, 2002), but broadly there is consensus that important determinants of parenting include child characteristics, family economic resources, and parent characteristics. These three determinants are seen as influencing more proximal determinants such as parent mental health, marital relationships, and social support. Because parental competence is multiply determined, it stands to reason that the parenting system is buffered against threats to its integrity that derive from weaknesses in any single source. Guided by these broader parenting models, we examined mothers who presented with risk factors in the realms of child characteristics and family economic resources and what

potential protective factors might be particularly important for positive parenting in this population.

Risk factors

The three specific risk factors that we hypothesized would be likely to impair positive parenting were child developmental delay (DD), high child behavior problems, and low family income. These risk factors often present together, with higher prevalence of DD in low SES communities (Emerson, 2012; Leonard & Wen, 2002) and higher prevalence of behavior problems in children with DD than typically developing children (Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Hudson, Mathews, Gavidia-Payne, Cameron, Mildon, et al., 2003).

Developmental delay. There is evidence that child DD has a significant impact on parental functioning (Herring, Gray, Taffe, Tonge, Sweeney, et al., 2006), as well as negative parenting behavior specifically (Brown, McIntyre, Crnic, Baker, & Blacher, 2011). Children with DD are more likely to have parents who are more intrusive and who display more negative affect than parents of TD children (Floyd, Harter, & Costigan, 2004). As noted by Brown et al. (2011), the parent of a child with a disability may be required to spend more time in direct contact with the child; when the parenting-child interaction is perceived as less rewarding the parent may be more likely to show heightened levels of negative affect.

Behavior problems. The second risk factor of interest – child behavior problems – has been found to be a significant predictor of parenting stress (Baker, McIntyre, Blacher, Crnic, Edelbrock, et al., 2003; Lecavalier, Leone, & Wiltz, 2006). While the majority of the research in this area has focused on the effect of parenting on child behavior problems, there is emerging evidence that the relationship is reciprocal and that child behavior problems predict increased parenting stress over time (Neece, Green, & Baker, 2012) and also predict negative parenting

practices (Marchand, Hock, & Widaman, 2002; Snyder, Cramer, Afrank, & Patterson, 2005; Pardini, Fite, & Burke, 2008). If a child has a difficult temperament and exhibits frequent behavior problems the parent is more likely to respond negatively, providing fewer positive interactions than if a child is more easygoing (Collins, Maccoby, Steinberg, Hetherinton, & Bornstein, 2000).

Low income. Lastly, lower levels of financial resources may also predict more negative parenting practices (Chaudhuri, Easterbrooks, & Davis, 2009; Linver, Brooks-Gunn, & Kohen, 2002; Degarmo, Forgatch, & Martinez, 1999). Parents with lower income have been found to be less child-centered and nurturing and more rejecting in interactions with their children than parents with higher income (Mistry, Biesanz, Taylor, Burchinal, & Cox, 2004). This finding has been attributed in part to increased stress levels and fewer resources to mitigate stress (e.g. child care) for parents with low income (McLoyd, 1998).

Protective factors

With consideration to the often co-occurring risk factors outlined above in the realms of child characteristics and family economic resources, we examined potential parent characteristics that might act as protective factors to facilitate positive parenting in the face of child and economic risk. Luthar et al. (2006) suggested that resilience research should prioritize examination of protective factors known to be salient in that risk context, that are malleable or amenable to interventions, that are enduring, affecting people for relatively long periods, and that are generative of other assets. Based on findings in the broader developmental and resilience literature, we examined three potential mother-related protective factors: maternal education, health, and dispositional optimism.

Education. Mother education has been identified repeatedly as a correlate or predictor of positive parenting behavior (Blacher, Baker, & Kaladjian, 2013; Richman, Miller, & LeVine, 1992). Education may provide mothers with important cognitive resources that help them to engage in more effective parenting (Neitzel & Stright 2004). Too, education may be a mechanism for mothers to develop self-efficacy (Coleman & Karraker 1998); mothers with more education may feel more capable of handling their parenting responsibilities. Fox, Platz, and Bentley (1995) found that mothers with more education were less likely to perceive their children as difficult, suggesting that education may act as a protective factor in modifying the effects of child temperament on parenting behavior.

Health. Surprisingly, there is little research on how maternal physical health affects parenting behavior. It is reasonable to assume that diminished health, which takes a toll on emotional, physical, and cognitive resources, would make it difficult to engage in positive parenting behaviors. Conversely, good health and associated higher levels of energy may increase the likelihood of positive parenting, even in the face of adverse circumstances. The little research there is in this area does suggest that mothers with impaired health engage in less effective parenting behaviors. Nehring and Cohen (1995) found that mothers with chronic illness displayed reduced parenting efficacy. Evans, Shipton, & Keenan (2006) compared the parenting strategies used by mothers with chronic pain to parenting strategies used by a control group of mothers without pain. They found that mothers with chronic pain were more likely to engage in permissive parenting and develop a poorer relationship with their child.

It should be noted that maternal mental health also was examined as a potential protective factor and, unexpectedly, was not a significant protective factor for positive parenting. This may be because of the age of the children in our sample and the inclusion of positive parenting in our

outcome variable. Previous research has demonstrated that the association between depression and parenting is stronger among mothers of infants than mothers of toddlers and school-age children. Additionally, previous research has shown a moderate association between maternal depression and negative parenting, but a relatively small association between maternal depression and positive parenting (Lovejoy, Graczyk, O'Hare, & Neuman, 2000).

Optimism. Dispositional optimism is a relatively stable, general tendency of individuals to expect positive outcomes (Scheier & Carver, 1985). Individuals high in optimism typically have better psychological adjustment to negative life events (Brissette, Scheier, & Carver, 2002). Fletcher and Clarke (2003), for example, found that parents who adapted most successfully to having a child with cancer tended to perceive the good in situations. Specific to mothers of children with DD or disabilities, maternal optimism is related to increased positive affect and decreased negative affect and more adaptive coping strategies (Blacher, Baker, & Berkovits, 2013). For example, Baker, Blacher, and Olsson (2005) found that when child behavior problems were high, mothers with higher dispositional optimism reported higher scores on measures of well-being than did mothers who were less optimistic. Specific to the outcome of parenting, Hjelle, Busch, and Warren (1996) found that maternal optimism was positively related to maternal warmth and negatively related to aggression, hostility, indifference, and neglect. Similarly, Jones, Forehand, Brody, and Armistead (2002) found that maternal optimism was associated with positive parenting in inner-city African American single mothers. Overall, the literature suggests that optimism helps maintain positive parenting during adverse times (Taylor, Larsen-Rife, Conger, Widaman, & Cutrona, 2010).

Study model

Many researchers have used the ABCX model to conceptualize factors predicting parenting stress (McCubbin, Sussman, & Patterson, 1983; McCubbin, Thompson, & McCubbin, 1996; McCubbin, Hamilton, Thompson, Thompson, & Futrell, 1999). Figure 1.1 shows our adaptation of this model to include the three risk domains described above (A): child DD status, high child behavior problems, and low family income. The outcome of interest (X) was observed mothers' positive parenting behaviors. We hypothesized that each of these risk factors would predict poorer parenting (A – X), and that the effect on parenting will be cumulative, or even compounded, when more than one risk factor was present. We also hypothesized that the A-X relationship would be buffered by maternal resources (B: mother education and perceived health), and cognitions (C: mother dispositional optimism). We hypothesized that higher levels of these resources and cognitions would buffer the A-X relationship; that is, they would, in the face of risk, increase the likelihood of positive (resilient) parenting.

Knowing what we do now about the profound impact of parenting on child outcomes, it is an urgent task to provide interventions for at-risk parents, and importantly, to specify key areas of focus for these interventions (Luthar & Brown, 2007). Identifying risk and protective factors for resilient parenting can guide intervention, for example a preventative focus that aims to develop parental cognitions and resources in the early years of parenting.

This program of research is divided into three studies. Study 1 (Ellingsen, Baker, Blacher, & Crnic, 2014a) examined resilient parenting in early childhood (age 3-5), first validating the risk factors concurrently at age 3 and again at age 5. Then the full model was assessed to determine which resources and cognitions acted as protective factors, at age 3, and again at age 5. Finally, we examined whether risk and protective factors at age 3 predicted change in positive parenting over a two-year period.

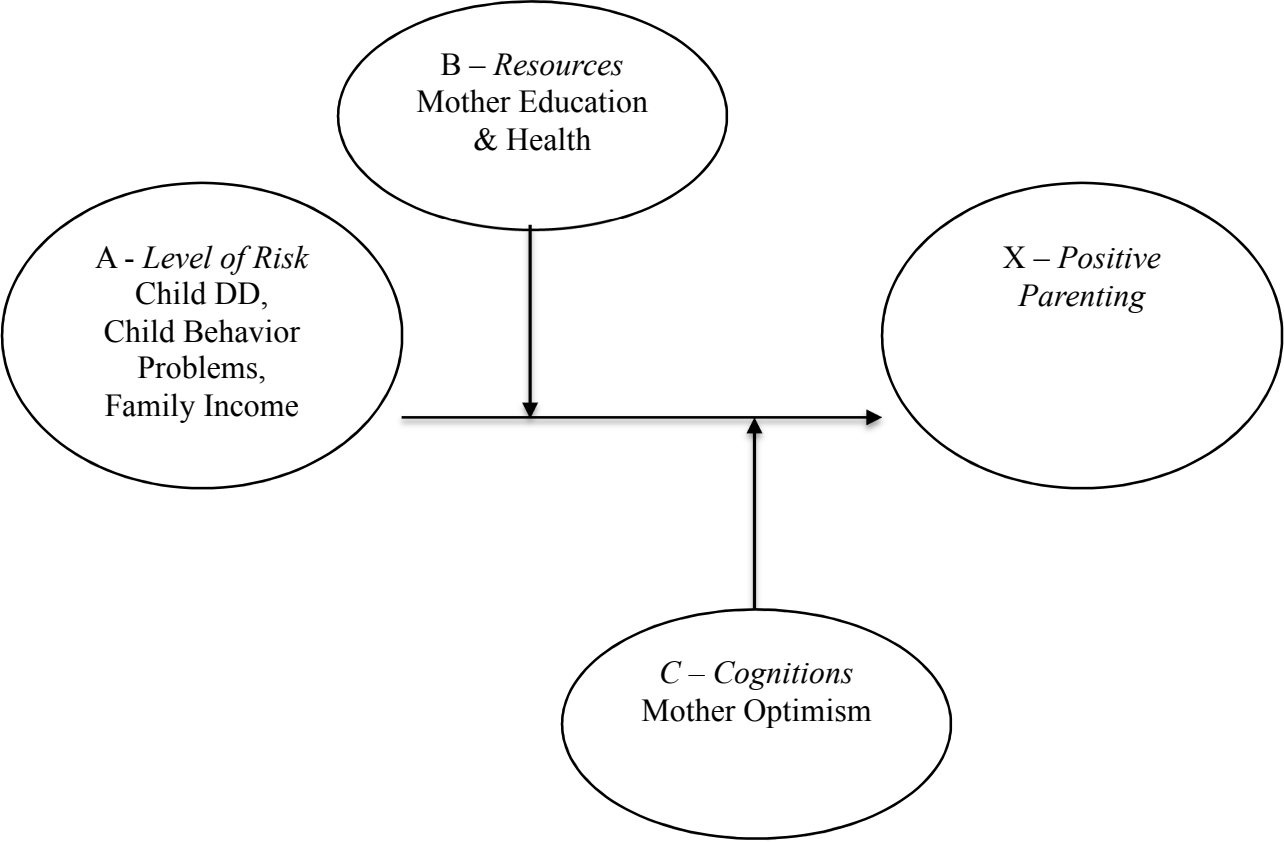
Study 2 (Ellingsen, Baker, Blacher, & Crnic, 2014b) replicated the model used in Study 1 to assess risk and protective factors for positive parenting from age 5-8. The same risk and protective factors were used, except that rather than using the broad behavior problems variable, ADHD or ODD diagnosis was used, as these represent the most diagnosed psychiatric disorders in school-age children. First, the A-X relationship was examined to validate the risk factors concurrently at age 5 and then predictively from age 5 to age 8. Second, the full model, including protective factors, was assessed concurrently at age 5 and predictively from age 5 to age 8. Third, we examined whether risk and protective factors at age 5 predicted change in positive parenting over a three-year period. Studies 1 and 2 provided groundwork for examination of risk and protective factors for positive parenting over time, as different factors may be more helpful during particular child developmental periods.

Study 3 assessed resilient parenting in adolescence (age 13-15). Adolescent years consist of pronounced cognitive, emotional, and physical changes, and although children typically become more independent from their parents during adolescence, effective parenting behaviors are crucial to facilitate healthy development and eventual independence. Study 3 is divided into three parts: Part 1 replicated the ABCX model from studies 1 and 2, with the addition of adolescent depression as a potential risk factor for positive parenting. The outcome measure of parenting was also enhanced to capture the process of conflict resolution between mother and child, a critical issue in parent-child relationships during adolescence. Part 2 investigated additional protective factors for positive parenting with a measure of general characteristics of resilience and a qualitative investigation of mothers' perceptions of what they found to be most helpful when facing parenting challenges. Part 3 examined an additional sample of youth with autism spectrum disorder (ASD). Parents of children with ASD face specific challenges in

parenting and extraordinary demands on their time and energy due to their child's social and behavioral impairments (Barbarese, Katusic, & Voigt, 2006), yet there is little research focusing on parenting behavior in families of children with ASD.

Studies 1, 2, and 3 are summarized in the next three chapters. Study 3 will be described in the most detail, and the reader is encouraged to reference published versions of studies 1 and 2 (Ellingsen et al., 2014a; Ellingsen et al., 2014b).

Figure 1.1 Conceptual model of child risk and parenting outcome with mothers' resources and cognitions as protective factors.



CHAPTER II. Study 1: Resilient Parenting of Preschool Children at Developmental Risk

Ellingsen, R., Baker, B. L., Blacher, J., & Crnic, K. (2014). Resilient parenting of preschool children at developmental risk. *Journal of Intellectual Disability Research*, 58, 664-678.

This study involved mothers of preschool-age children who presented with risk factors in the realms of child characteristics and family economic resources and examined what potential protective factors might be particularly important for positive parenting in this population. The three specific risk factors we examined that would be likely to impair positive parenting were child DD, high child behavior problems, and low family income. We examined three parent characteristics – mother’s education, health, and dispositional optimism – that might act as protective factors to facilitate positive parenting. Resilient parenting was assessed from child age 3 to 5 years old using the ABCX model. We hypothesized that each of the risk factors would predict poorer parenting (A-X), and that the effect on parenting would be cumulative, or even compounded, when more than one risk factor was present. We also hypothesized that higher levels of the protective factors would protect the A-X relationship; that is, they would, in the face of risk, increase the likelihood of positive (resilient) parenting. Resilient parenting was assessed concurrently at ages 3 and 5; we also examined whether risk and protective factors at age 3 predicted change in positive parenting from age 3-5.

Method

Participants

Participants were children and their families who are part of the NICHD-funded Collaborative Family Study (CFS), a cross-site 12-year longitudinal study (PIs: Bruce L. Baker, Jan Blacher, & Keith Crnic). Samples were assessed at two locations in Southern California (74%) and one in Central Pennsylvania (26%). The present sample included 232 families with complete data at child age 3. Families of children with DD at age 3 years were recruited

primarily through agencies that provide and purchase diagnostic and intervention services for persons with intellectual and developmental disabilities. Families of children with TD were recruited primarily through local preschools and daycare programs. Based on the Bayley Scales of Infant Development-II (Bayley, 1993) at age 3 years, children were divided into two groups: DD (score 40-84, $n = 100$) or TD (score 85 or higher, $n = 132$). In the full sample there were more boys (58.0%) than girls. Mother race/ethnicity was 64.0% European American, 20.1% Latino, 7.5% African American, 5.0% Asian American, and 2.1% classified as “other.” Recruitment initially focused on intact families, so 85.7% of participants were married (defined here as legally married or living together at least six months). The average socioeconomic status was moderately high; 51.6% of families had an annual income above \$50,000 (in 1998 - 2001 dollars) and the average years of schooling for mothers was three years of college.

Procedures

In recruiting participants, school and agency personnel mailed brochures describing the study to families who met selection criteria and interested parents contacted the research center closest to them. The family was visited at age 3 for an in-home assessment of the child’s intellectual level. Then the mother and child came to assessment sessions at the child study center at age 3 and 5, where demographic assessment and observational measures of the mother-child interaction were completed. Child’s intellectual level at age 5 was also assessed at the child study center. Mothers’ self-report of optimism and report of their children’s behavior problems were obtained as part of a packet of measures completed at age 3 and again at age 5.

Measures of risk factors

Bayley Scales of Infant Development-II (BSID-II; Bayley, 1993). Administered at child age 3, the Bayley is a widely used assessment of development in children aged 1-42 months.

Only the mental development items were administered, which yielded a mental development index (MDI), normed with a mean of 100 and a standard deviation of 15. The risk cut-off for DD at age 3 was a score below 85.

Stanford-Binet IV (Thorndike, Hagen, & Sattler, 1986). The Stanford-Binet IV was administered to assess children's cognitive abilities at age 5. The Stanford Binet IV yields an IQ score with a mean of 100 and a standard deviation of 15. The risk cut-off for DD at age 5 was a score below 85.

The following measures were all administered at child ages 3 and 5.

Child Behavior Checklist for ages 1.5-5 (CBCL; Achenbach & Rescorla, 2000). The CBCL has 99 items that indicate child behavior problems. The present study utilized only total CBCL problem behavior scores; total score alpha for mothers at age 3 was 0.94. Behavior problems were determined following Achenbach and Rescorla's (2000) suggested groupings of non-clinical (T score < 60) and clinical (T score ≥ 60 , indicating borderline or clinical range). The risk cut-off used was a T score greater than or equal to 60.

Family Information Form. A family demographic assessment, administered to mothers each year, included an item assessing total family annual income. The poverty guideline for a 4-person family was \$17,650 (U.S. Department of Health & Human Services). We dichotomized the family income variable so that the risk factor cut-off was annual income equal to or less than \$35,000 (twice the poverty guideline or below).

Measures of protective factors

Family Information Form. Mother education was assessed using an item on the demographic assessment that asked how many grades in school the mother had completed. Responses in this sample ranged from grade 10 to grade 20 (8 years of education post-high

school). Mother health was assessed using another item that asked the mother to rate her health in general. The response options were: (1) Poor, (2) Fair, (3) Good, (4) Excellent. This single-item measure of perceived health has been shown to predict morbidity and mortality across a range of diseases and populations (Idler & Benyami, 1997).

Life Orientation Test-Revised (LOT-R; Scheier & Carver 1985). The LOT-R is a self-report measure of dispositional optimism, or people's generalized positive (or negative) expectancies about the future in general. Alpha for the present sample at the age 3 assessment was 0.82.

Measure of outcome

Parent-Child Interaction Rating Scale (Belsky, Crnic, & Woodworth, 1995). Parenting was coded from lab observations of mother and child. A number of parent, child, and dyadic behaviors were videotaped during free play, three problem-solving tasks, and clean up. Pairs of coders used a five-point Likert scale that considered both the frequency and intensity of the expressed affect or behavior and arrived at a consensus code. Dimension scale scores were converted to z scores, which were combined to create the Positive Parenting composite (Positive Affect + Sensitivity + Stimulation - Detachment) and Negative Parenting composite (Negative Affect + Intrusiveness). These factors have been established and replicated through factor analyses conducted in several different labs (Fenning, Baker, Baker, & Crnic, 2007; Aber, Belsky, Slade, & Crnic, 1999; Woodworth, Belsky, & Crnic, 1996). While positive parenting and negative parenting are two separate constructs, we combined them to more fully capture the overall picture of parenting rather than considering positive parenting alone. Thus, the Negative Parenting composite was subtracted from the Positive Parenting composite to create an overall score.

Results and Discussion

Risk Factors and Positive Parenting

Phi coefficients among the three dichotomized risk factors (0 = no risk, 1 = meets risk criterion) at both child age 3 and age 5 years were positive, but mostly in the small range ($< .25$), suggesting that they were mainly independent constructs. Point-biserial correlations between each dichotomized risk factor and the positive parenting score were all statistically significant at age 3 and at age 5. At each age the three dichotomized risk factors were combined into a composite defined as “level of risk,” so that scores ranged from 0 (no risk factors present) to 3 (all 3 risk factors present).

Analyses at Child Age 3. As shown in Figure 2.1, levels of positive parenting differed significantly across levels of risk $F(3, 230) = 22.87, p < .001 (\eta^2 = 0.23)$. Tukey post-hoc comparisons of the four groups indicated that mothers of children with no risk factors ($M = 2.40, 95\% \text{ CI } [1.60, 3.20]$) displayed significantly higher levels of positive parenting (z scores) than mothers of children with one risk factor ($M = -0.48, 95\% \text{ CI } [-1.34, 0.37]$), $p < .001$; two risk factors ($M = -2.97, 95\% \text{ CI } [-4.21, -1.74]$), $p < .001$; or three risk factors ($M = -2.73, 95\% \text{ CI } [-4.45, -1.01]$), $p < .001$. In addition, mothers of children with two risk factors displayed lower levels of positive parenting than mothers of children with one risk factor, $p < .01$.

We regressed level of risk, the three protective factors (education, health, and optimism), and interactions between risk and each protective factor on positive parenting in three steps. In step 1, level of risk was entered, and in step 2 the three protective factors were entered. In step 3, the three interaction terms between risk and each protective factor were entered. Level of risk by itself was a significant predictor of positive parenting ($\beta = -0.45, p < .001$). When the three protective factors were included in the model, higher levels of risk still predicted less positive

parenting at age 3, though less so ($\beta = -0.29, p < .001$). More education ($\beta = 0.20, p < .01$) and higher levels of optimism ($\beta = 0.15, p < .05$) entered significantly, appearing to be protective factors for positive parenting. To further assess the protective value of these variables, we looked at the interactions between level of risk and each protective factor. There was a significant interaction between level of risk and education at age 3 ($\beta = 0.15, p < .05$), such that mothers with more education engaged in more positive parenting at higher levels of risk than mothers with less education. This finding suggests that education is a key variable in increasing the likelihood of resilient parenting. Similar results were reported by Neitzel and Stright (2004), who found that mothers who perceived their children as difficult were less likely to parent effectively. However, the most educated mothers actually demonstrated more effective parenting when they perceived their children as difficult.

Analyses at Child Age 5. As shown in Figure 2.1, at child age 5 levels of positive parenting also differed significantly across levels of risk $F(3, 199) = 12.64, p < .001$ ($\eta^2 = 0.16$). Similar to findings at child age 3, two years later mothers with no risk factors ($M = 1.50, 95\% \text{ CI } [0.71, 2.30]$) displayed higher levels of positive parenting than those with one risk factor ($M = -0.50, 95\% \text{ CI } [-1.40, 0.40]$), $p < .01$; two risk factors ($M = -1.93, 95\% \text{ CI } [-3.20, -0.65]$), $p < .001$; or three risk factors ($M = -4.09, 95\% \text{ CI } [-6.24, -1.94]$), $p < .001$. In addition, mothers with three risk factors displayed lower levels of positive parenting than those with one risk factor, $p < .05$.

The three-step regression used for age 3 variables was conducted for the same variables based on scores at age 5. Level of risk by itself was still a significant predictor of positive parenting ($\beta = -0.40, p < .001$). When the three protective factors were included in the model, higher levels of risk still predicted less positive parenting at age 5, but less so ($\beta = -0.25, p < .01$)

as higher levels of maternal health ($\beta = 0.14, p < .05$) and optimism ($\beta = 0.16, p < .05$) predicted more positive parenting, suggesting that they are protective factors for resilient parenting.

Higher maternal education predicted more positive parenting at trend level ($\beta = 0.13, p < .10$).

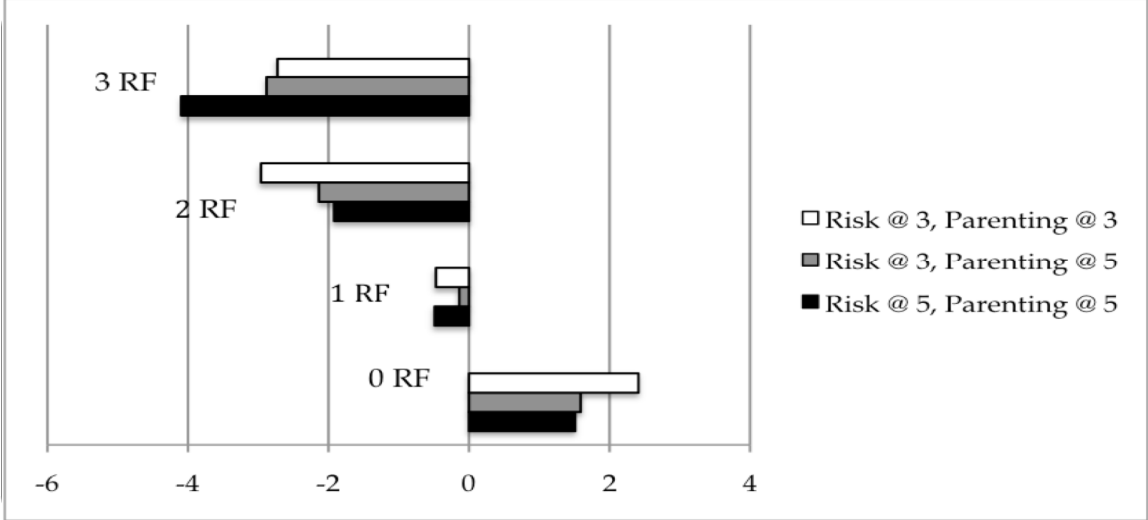
No interactions between level of risk and a protective factor was significant.

Analyses from Child Age 3-5. We also examined whether risk and protective factors at age 3 predicted change in positive parenting over a two-year period, given that resilience does not always involve doing well during or even shortly after stressful circumstances, but in the longer term (Hill, Stafford, Seaman, Ross, & Daniel, 2007). This was a more stringent test of the power of these variables, as positive parenting was moderately stable across this time period ($r = 0.49$). In step 1 we entered the positive parenting z score at age 3, in step 2 we entered the risk score at age 3, and in step 3 we entered the three protective factors assessed at age 3. The dependent variable was the positive parenting z score at age 5. Earlier positive parenting was a strong predictor of subsequent positive parenting ($\beta = 0.59, p < .001$), but in this analysis the risk index did not predict change in positive parenting. Education and optimism were not significant predictors of change, but better maternal health predicted positive changes ($\beta = 0.15, p < .05$).

This suggests that maternal health is an important variable to consider as an influence on parenting practices. It is interesting that maternal health did not predict parenting at child age three, and yet predicted an increase in positive parenting from child age three to five. Perhaps the effects of poor health become more pronounced with the passage of time. Furthermore, maternal health is a stable construct and is highly correlated at age 3 and age 5 ($r = 0.55, p < .001$). Therefore, maternal health may be more important at age five, perhaps due to additional stressors such as school entry that can be especially difficult for someone in poor health, than at child age three. Although there is little research in this area, especially in the disability literature,

this result coincides with the existing research on mothers with chronic illness that suggests poor health predicts reduced parenting efficacy and poorer parenting practices (Nehring & Cohen 1995; Evans et al., 2006). The results of this study suggest that maternal health is a powerful enough variable to predict change in parenting practices over two years; in fact, it was the only variable to predict change in parenting.

Figure 2.1 Positive parenting (z scores) in early childhood by risk index (number of risk factors).



Chapter III. Study 2: Resilient parenting of children at developmental risk across middle childhood

Ellingsen, R., Baker, B. L., Blacher, J., & Crnic, K. (2014). Resilient parenting of children at developmental risk across middle childhood. *Research in Developmental Disabilities, 35*, 1364-1374.

There are several changes that occur in the family context as children transition from preschool to school-age, and risk and protective factors for parenting might change in salience as a child develops and parenting demands change. For example, mothers may become more acclimated to their child's DD or problem behaviors over time. On the other hand, mothers may become more aware of their child's cognitive limitations or problem behaviors as same-age peers advance in their academics and social relationships. Therefore, the model used in the previous study of mothers and their preschool-age children was replicated in this study to assess how risk and protective factors for positive parenting might change over the course of early childhood.

This study used the same risk and protective factors as the preschool-age study, except that rather than using the broad behavior problems variable, ADHD or ODD diagnosis was used, as these represent the most diagnosed disorders in school-age children. Therefore, the three specific binary risk factors we examined that would be likely to impair positive parenting were child DD (DD or TD), child ADHD or ODD diagnosis (yes, no), and low family income (yes, no). We assessed whether each of these risk factors predicted less positive parenting in mothers when their children were 5 and 8 years old; we also assessed whether the effect on parenting behavior was cumulative when more than one risk factor was present. We then hypothesized that the relationship between a higher risk index and lower positive parenting would be protected by maternal attributes – specifically, mother education, perceived health, and dispositional optimism. We predicted that higher levels of these variables would increase the likelihood of positive (resilient) parenting in the face of child and/or economic risk. Next we examined how

protective factors might influence resilient parenting behavior three years later. Finally, we examined whether risk and protective factors measured at age 5 would relate to change in positive parenting over the course of three years.

Method

Participants

Participants were 162 children and their families from CFS. Based on the *Stanford-Binet IV* (Thorndike et al., 1986) at age 5 years, children were divided into two groups: DD (score 36-84, $n = 53$) or TD (score 85 or higher, $n = 109$). The percent of the sample with each of the three risk factors was similar. Mother race/ethnicity was 62.3% Caucasian, 21.6% Latino, 8.6% African American, 4.3% Asian American, 1.2% Native American, and 1.9% classified as “other.” Recruitment had initially focused on intact families, so 81.5% of participants were married (defined here as legally married or living together at least six months). The average socioeconomic status was moderately high; 58.7% of families had an annual income above \$50,000 and the average years of schooling for mothers was three years of college.

Procedures

The mother and child came to an assessment session at the child study center at child age 5 years; the child’s intellectual level was assessed and observational measures of the mother-child interaction were made. The family was visited for home observations that yielded the parenting outcome variables at child ages 5, 7, and 8 years. Mothers’ self-report of optimism and report of their children’s ADHD and ODD symptoms were obtained as part of a packet of measures completed at child age 5. The remaining data used in this study came from a family demographic assessment at child age 5.

Measures of risk factors (age 5)

Stanford-Binet IV (Thorndike et al., 1986). The Stanford-Binet IV was administered to assess children's cognitive abilities at age 5. The Stanford-Binet IV yields an IQ score with a normative mean = 100 and $SD = 15$. The risk cut-off used was a score below 85.

Child Behavior Checklist for ages 1.5-5 (CBCL; Achenbach & Rescorla, 2000). The CBCL has 99 items that indicate child behavior problems. The present study utilized only ADHD and ODD clinical scores. There are six items in each scale; in the present sample at child age 5, alphas for the ADHD and ODD scales were 0.83 and 0.86, respectively. Elevated ADHD and ODD symptoms were determined following Achenbach and Rescorla's (2000) suggested groupings of non-clinical (T score < 60) and clinical (T score ≥ 60 , indicating borderline or clinical range). The risk cut-off used was a T score greater than or equal to 60 on one or both of the scales.

Family Information Form. A family demographic assessment, administered to mothers, included an item assessing total family annual income. The poverty guideline for a 4-person family was \$17,650 (U.S. Department of Health & Human Services). We dichotomized the family income variable so that the risk factor cut-off was annual income equal to or less than \$35,000 (twice the poverty guideline or below).

Measures of protective factors (age 5)

Family Information Form. Mother education was assessed using an item on the demographic assessment that asked how many years of education the mother had completed. Responses in this sample ranged from grade 10 to grade 20 (8 years of education post-high school). Mother health was assessed using another item that asked the mother to rate her health in general. The response options were: (1) Poor, (2) Fair, (3) Good, (4) Excellent.

Life Orientation Test-Revised (LOT-R; Scheier & Carver 1985). The LOT-R is a self-report measure of dispositional optimism, or people's generalized positive (or negative) expectancies about the future in general. Alpha for the present sample at the age 5 assessment was 0.83.

Measure of outcome (age 5 & 8)

Parent-Child Interaction Rating Scale (Belsky et al., 1995). Parenting was coded from both naturalistic and structured observations of mother and child at child ages 5, 7 and 8. The structured observations included a number of parent, child, and dyadic behaviors that were videotaped during free play, problem-solving tasks, and clean up. Pairs of coders rated various behaviors on a 5-point Likert scale that considered both the frequency and intensity of the expressed affect or behavior and arrived at a consensus code. Reliability was defined as a criterion of over 70% exact agreement with the primary coder and 95% agreement within one scale point.

During the naturalistic home observations families were observed in the evening, for a 30-minute period. Prior to collecting observational data in the home, coders were trained on videotapes of home observations and attended live home observations with an experienced coder until reliability was established. Reliability was defined as a criterion of over 70% exact agreement with the primary coder and 95% agreement within one scale point.

The present study examined the dimensions of Positive Affect, Negative Affect, Sensitivity, Stimulation of Cognition, Intrusiveness and Detachment. The dimension scale scores were converted to z scores, which were combined to create the Positive Parenting composite (Positive Affect, + Sensitivity + Stimulation - Detachment) and Negative Parenting composite (Negative Affect + Intrusiveness). The Negative Parenting composite was subtracted

from the Positive Parenting composite to create an overall score more accurately reflecting Positive Parenting for both naturalistic and structured observations. The naturalistic and structured positive parenting scores were averaged at each child age (7 and 8 years), and subsequently were averaged across the two ages. For simplicity, this parenting composite will be referred to as age 8 parenting for the remainder of the paper.

Results and Discussion

Risk factors and positive parenting

Phi coefficients among the three dichotomized risk factors (0 = no risk, 1 = meets risk criterion) at child age 5 years were positive, but small (.13 to .31), suggesting that they were mainly independent constructs. Each risk factor predicted less positive parenting at ages 5 and 8. At ages 5 and 8 the three dichotomized risk factors were combined into a composite defined as “level of risk,” so that scores ranged from 0 (no risk factors present) to 3 (all three risk factors present).

Analyses at child age 5. As shown in Figure 3.1, levels of positive parenting at age 5 differed significantly across levels of risk at age 5 $F(3, 158) = 14.04, p < .001 (\eta^2 = 0.21)$. Tukey post-hoc comparisons of the four groups indicated that mothers of children with no risk factors ($M = 1.72, 95\% \text{ CI } [0.88, 2.55]$) displayed significantly higher levels of positive parenting (z scores) than mothers of children with one risk factor ($M = -0.03, 95\% \text{ CI } [-1.02, 0.96]$), $p < .05$, two risk factors ($M = -2.40, 95\% \text{ CI } [-3.59, -1.22]$), $p < .001$ and three risk factors ($M = -3.28, 95\% \text{ CI } [-5.36, -1.20]$), $p < .001$. In addition, mothers of children with one risk factor displayed higher levels of positive parenting than mothers of children with two risk factors ($p < .05$) and three risk factors ($p < .05$)

We regressed level of risk, the three protective factors (education, health, and optimism), and interactions between risk and each protective factor on positive parenting in three steps. In step 1, level of risk was entered, and in step 2 the three protective factors were entered. In step 3, the three interaction terms between risk and each protective factor were entered. Interactions between level of risk and each protective factor were not significant, so the regression analysis was rerun and reported without them. Level of risk by itself was a significant predictor of positive parenting ($\beta = -0.45, p < .001$). When the three protective factors were included in the model, higher levels of risk still predicted less positive parenting at age 5 ($\beta = -0.32, p < .001$). Higher levels of optimism entered significantly as a protective factor ($\beta = 0.17, p < .05$). Maternal education ($\beta = 0.13, p < .10$) and health ($\beta = 0.13, p < .10$) entered at trend level significance.

Analyses from child age 5-8. Next we examined how protective factors might influence resilient parenting behavior three years later. As shown in Figure 3.1, at child age 8 levels of positive parenting also differed significantly across levels of risk assessed at child age 5 $F(3, 158) = 8.36, p < .001$ ($\eta^2 = 0.14$). Mothers with no risk factors at child age 5 ($M = 1.15, 95\% \text{ CI } [0.48, 1.81]$) displayed higher levels of positive parenting at child age 8 than those with one risk factor ($M = -0.71, 95\% \text{ CI } [-1.50, 0.08]$), $p < .01$; two risk factors ($M = -0.45, 95\% \text{ CI } [-1.40, 0.50]$), $p < .05$; or three risk factors ($M = -2.61, 95\% \text{ CI } [-4.28, -0.95]$), $p < .001$.

The three-step regression used for age 5 variables was conducted to predict positive parenting at age 8 with risk, protective factors, and interactions at age 5. Again, interactions between level of risk and each protective factor were not significant, so the regression analysis was rerun and reported without them. Level of child risk at age 5 by itself was still a significant predictor of positive parenting ($\beta = -0.33, p < .001$). When the three protective factors were

included in the model, higher levels of risk still predicted less positive parenting at age 8 ($\beta = -0.19, p < .05$), but higher levels of maternal optimism entered as a significant protective factor above and beyond levels of risk ($\beta = 0.25, p < .01$). Maternal health again entered at trend level significance ($\beta = 0.15, p < .10$).

Analyses of change from Child Age 5-8. Finally, we examined whether risk and protective factors measured at age 5 would relate to change in positive parenting over the course of three years. This was a more stringent test of the power of these variables, as positive parenting was moderately stable across this time period ($r = 0.53$). In step 1 we entered the positive parenting z score at age 5, in step 2 we entered the risk score at age 5, and in step 3 we entered the three protective factors assessed at age 5. The dependent variable was the positive parenting z score at age 8. Positive parenting at age 5 was a significant predictor of positive parenting at age 8 in all three steps ($\beta = 0.53, 0.48, 0.41, p < .001$). Level of risk was not a significant predictor of positive parenting at age 8 in the second and third step. Mother's optimism was a significant predictor of change in positive parenting in the third step ($\beta = 0.18, p < .05$). Education and health were not significant predictors of change in positive parenting.

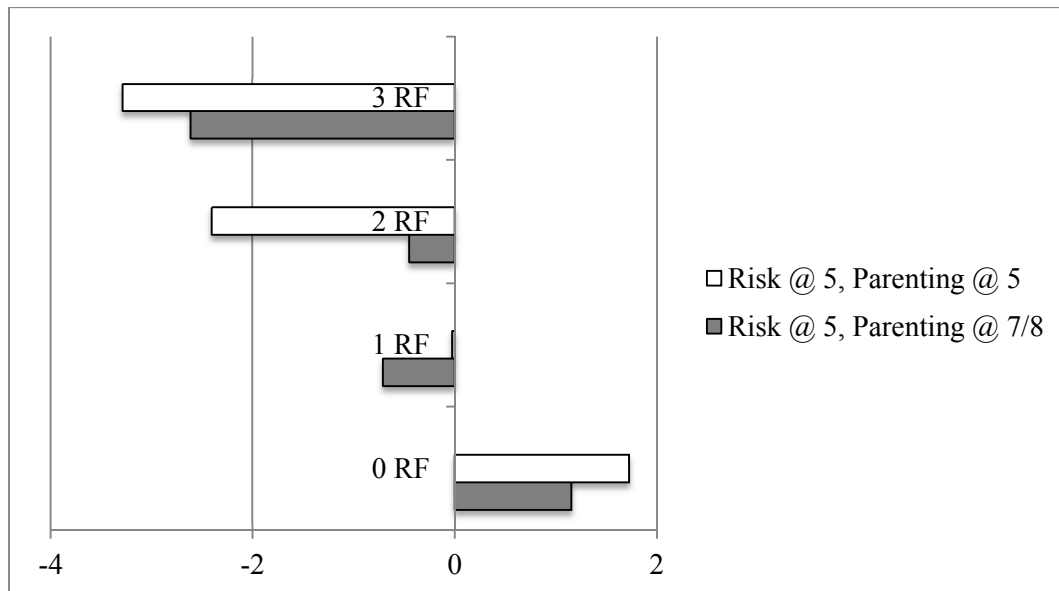
These results as a whole suggest that maternal dispositional optimism is a particularly important variable to consider as an influence on parenting practices. Optimism was a protective factor for resilient parenting concurrently at age 5 and predictively to age 8, as well as a predictor of positive change in parenting from age 5 to age 8, above and beyond level of risk. In the preschool-age study of resilient parenting, maternal optimism also was a significant protective factor for positive parenting at child age 3 and again at age 5. This repeated finding is consistent with other studies where parental optimism was associated with positive affect and aspects of

psychological well-being in children with intellectual disabilities (Taunt & Hastings, 2002) as well as in children with autism spectrum disorders (Ekas, Lickenbrock, & Whitman, 2010).

Maternal education and health did not appear to be as protective for positive parenting in the current study as we found at earlier child ages. Education may be more important when a child is younger and a mother does not yet have real-life experience to contribute to her parenting self-efficacy. Perhaps as children develop mothers begin to feel more efficacious in their parenting abilities and knowledge due to their years of hands-on experience, as opposed to more reliance on cognitive resources and formal education. Similarly, the protective properties of maternal perceived health may decrease in salience over time as a function of a mother's increasing experience with her child. It may be that a mother's parenting behavior is more affected by her physical health during early years as a parent when she hasn't had ample opportunity to adapt her parenting behavior to any physical limitations.

The evidence from the previous study of mothers of preschool-age children and the present study of mothers of school-age children suggest that parenting is less positive given child risk factors, but also that mother attributes can buffer this risk-poorer parenting relationship. The results from these studies have implications for intervention, specifically parent support programs. Dispositional optimism emerged as a key protective factor for positive parenting across early childhood and there is evidence that higher dispositional optimism can be learned (Seligman, 2002). Parents with the risk factors identified in these studies should be targeted for such parenting interventions that shift the focus from problems to strengths and opportunities.

Figure 3.1 Positive parenting (z scores) in middle childhood by risk index (number of risk factors).



Chapter IV. Study 3: Resilient parenting of adolescents at developmental risk

Part 1: ABCX Model for Resilient Parenting during Adolescence

The evidence from Studies 1 & 2 suggests that parenting is less positive given child risk factors, but also that mother attributes can act as protective factors for this risk-poorer parenting relationship. Longitudinal research is critical to understanding the dynamic construct of resilience (Luthar et al., 2000), and therefore Study 3 continued this investigation of resilient parenting during the critical developmental period of adolescence – from child age 13 to 15 years. These years consist of pronounced cognitive, emotional, and physical changes. Although children typically become more independent from their parents during adolescence, effective parenting behaviors are crucial to facilitate healthy development and eventual independence.

A large body of research has shown that parenting in this age range has an important socializing influence on children's behavior and psychological adjustment (Baumrind, 1991; Theokas & Lerner, 2006), placing great importance on understanding risk and protective factors for positive parenting during adolescence. For example, positive parenting during this developmental period has been associated with higher youth academic competence (Gray & Steinberg, 1999), lower levels of externalizing and internalizing problems (Fauber, Forehand, Thomas, & Wierson, 1990; Garber, Robinson, & Valentiner, 1997), better self-regulation (Lewin-Bizan, Bowers, & Lerner, 2010), and fewer depressive symptoms (Gate, Watkins, Simmons, Byrne, Schwartz, et al., 2013).

We assessed whether the three risk factors that were previously studied – child ID, child ADHD/ODD diagnosis, and low family income – continued to predict less concurrent positive parenting in mothers at child age 13 and 15, and whether the effect on parenting behavior was cumulative when more than one risk factor was present. We also included adolescent depression as an additional risk factor for positive parenting. Extensive research suggests that the transition

to adolescence is marked by a significant rise in depressive symptoms and rates of depressive diagnoses (Cole, Tram, Martin, Hoffman, Ruiz, et al., 2002; Twenge & Nolen-Hoeksema, 2002), and there appears to be an association between higher and lower levels of youth depressive symptoms and negative and positive parental behaviors, respectively (Burge & Hammen, 1991, Schwartz, Sheeber, Dudgeon, & Allen, 2012).

Studies 1 and 2 provided evidence for three protective factors for resilient parenting. Mothers' education was a significant protective factor at ages 3 and 5; mothers' health was a significant protective factor at age 5, as well as a significant predictor of an increase in positive parenting from age 3 to 5. Mothers' dispositional optimism was the most consistent protective factor, significant at ages 3 and 5, as well as relating to positive parenting from ages 5 to 8 and predicting an increase in positive parenting from ages 5 to 8. These results provide evidence that maternal education, health, and optimism may be important protective factors for positive parenting, and therefore they were further assessed from child age 13 to 15. This extension of the previous studies contributes to our understanding of the stability of these risk and protective factors over time.

Another addition to Study 3 was inclusion of parent-child conflict resolution task codes in the existing parenting outcome measure. Mothers and their adolescents were asked to discuss a mutually identified area of disagreement and try to come up with a resolution in a time-limited task. This paradigm offers a controlled way to examine how the adolescent and mother discuss a disagreement relevant to their lives, enriching our observational measure of mother-child interaction.

Hypotheses

- 1) Child ID, child externalizing problems, low family income, and child depression will predict less positive parenting concurrently at ages 13 and 15. These risk factors will also predict less positive parenting from age 13-15.
- 2) The effect on parenting will be cumulative, or even compounded, when more than one risk factor is present.
- 3) The risk-parenting relationship will be protected by mother education, perceived health, and dispositional optimism concurrently at ages 13 and 15, as well as predictively from age 13-15. Dispositional optimism will be the strongest protective factor.

Method

Participants

Participants were 117 children with ID ($n = 39$) or TD ($n = 78$) and their families from CFS at child age 13 and 15 who had complete data for the variables of interest in the current study. This includes an additional sample of 25 families recruited at age 13, including 12 families of children with TD and 13 families of children with ID. Participants who joined at age 13 were referred to the study by local service agencies, schools, and state regional centers.

Individuals in the ID group were classified according to the criteria set forth by the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition Revised (American Psychiatric Association, 2000). That is, participants were included in the ID sample if they had an IQ in the clinical or borderline range for ID, below 85 on the WISC-IV (Wechsler, 2003), and a standard score below 85 on the Vineland Scales of Adaptive Behavior-II (VABS; Sparrow, Cicchetti, & Balla, 2005). We combined those with IQs below 70 ($n = 24$) per DSM-IV classification and those with IQs ranging from 71 to 84 (i.e., in the borderline range) ($n = 15$) in the ID group. This decision was based on prior research demonstrating similarities in difficulties

faced by those with borderline intellectual functioning and those with ID (DSM-IV-TR, American Psychiatric Association, 2000; Fenning, 2007). Participants in the ID group had undifferentiated DD with no known cause (n = 17) or previous diagnosis of ASD (n = 16), cerebral palsy (n = 5), or Down syndrome (n = 1). Participants in the TD group were included if they had an IQ of 85 or above on the WISC-IV, and no previous history of DD or disability.

Table 4.1 shows child, mother, and family demographic characteristics at child age 13. In the full sample there were more boys (54.7%) than girls. Mother race/ethnicity was 61.5% Caucasian, 19.7% Latino, 11.1% African American, 5.1% Asian American, 0.9% Native American, and 1.7% classified as “other.” The majority (70.1%) of mothers were married (defined here as legally married or living together at least six months). The average socioeconomic status was moderately high; 70.4% of families had an annual income above \$50,000 and the average years of schooling for mothers was 3.7 years of college.

The TD and ID groups differed significantly on several demographic variables. The ID group had significantly fewer Caucasian mothers, lower mothers’ mean grade in school, lower rates of mother employment, and lower family income. Significantly different demographic variables were covaried in subsequent analyses when they were related to the dependent variable.

Procedures

The mother and child came to assessment sessions at the child study center at child ages 13 and 15. The child’s intellectual level was assessed at age 13. Observational measures of the mother-child interaction at ages 13 and 15 yielded the parenting outcome variable. All additional measures came from a family demographic assessment and packet of measures completed by the mother at child ages 13 and 15.

Measures of risk factors

Child Behavior Checklist Ages 6-18 (CBCL, Achenbach, 2001). The CBCL is the most widely used parent-report measure of child socioemotional and behavioral functioning and has sound reliability and validity. The CBCL lists 113 behaviors that are rated by parents on a 3-point scale from 0 (*not true*) to 2 (*very true or often true*) of their child. The present study utilized the ADHD, ODD, and Affective Problems clinical scores at child age 13 and 15. In the present sample at child age 13, alphas for the ADHD, ODD, and Affective Problems scales were 0.86, 0.82 and 0.81, respectively. Elevated ADHD, ODD, and depressive symptoms were determined following Achenbach's (2001) suggested groupings of non-clinical (T score < 60) and clinical (T score ≥ 60 , indicating borderline or clinical range). The risk cut-off for ADHD/ODD was a T score greater than or equal to 60 on one or both of the ADHD or ODD scales. The risk cut-off for depression was a T score greater than or equal to 60 on the Affective Problems scale.

Family Information Form. A family demographic assessment, administered to mothers at child age 13 and 15, included an item assessing total family annual income. We dichotomized the family income variable so that the risk factor cut-off was annual income equal to or less than \$35,000 (twice the poverty guideline or below).

Vineland Adaptive Behavior Scales, Second Edition (VABS-II; Sparrow et al., 2005). Adolescent adaptive behavior and functioning was measured at child age 13 using parent report on the VABS-II, a semi-structured interview that assesses the adaptive (i.e., daily living) skills of individuals with or without a disability. Three subscales – communication, daily living skills, and socialization skills – are combined to form an Adaptive Behavior Composite score. The VABS-II instrument has an internal consistency from .75 to .80 and Cronbach's alpha of .93.

Wechsler Intelligence Scale for Children – Fourth Edition (WISC-IV, Wechsler, 2003).

Administered at age 13, full Scale IQ was estimated using three subtests of the WISC-IV (Vocabulary, Matrix Reasoning, and Arithmetic). The composite score correlates .91 with the full administration of the WISC-IV (Sattler & Dumont, 2004).

Measures of protective factors

Family Information Form. Mother education was assessed using an item from the demographic assessment that asked how many years of education the mother had completed. Mother health was assessed using another item that asked the mother to rate her health in general. The response options were: (1) Poor, (2) Fair, (3) Good, (4) Excellent.

Life Orientation Test-Revised (LOT-R; Scheier & Carver 1985). The LOT-R is a self-report measure of dispositional optimism, or people's generalized positive (or negative) expectancies about the future in general. It was administered to mothers at child age 13 and 15. Alpha for the present sample at the 13-year assessment was 0.79.

Measures of outcome

Parent-Child Interaction Rating Scale (PCIRS; Belsky et al., 1995). Parenting was coded from structured observations of mother and child at child ages 13 and 15. The structured observations included a number of parent, child, and dyadic behaviors that were videotaped during a problem-solving task. Pairs of coders rated each videotape. They rated each of the behaviors on a 5-point Likert scale (1 = not at all characteristic, 5 = highly or predominantly characteristic) that considered both the frequency and intensity of the expressed affect or behavior and arrived at a consensus code. Reliability was defined as a criterion of over 70% exact agreement with the primary coder and 95% agreement within one scale point.

We examined the dimensions of Positive Affect, Negative Affect, Sensitivity, Stimulation of Cognition, Intrusiveness and Detachment. The dimension scale scores were converted to z scores, which were combined to create the Positive Parenting composite (Positive Affect, + Sensitivity + Stimulation - Detachment) and Negative Parenting composite (Negative Affect + Intrusiveness). These factors have been established and replicated through factor analyses conducted in several different labs (Aber et al.; Fenning et al., 2007; Woodworth et al., 1996). The Negative Parenting composite was subtracted from the Positive Parenting composite to create an overall score more accurately reflecting Positive Parenting.

Parent-Child Conflict Resolution Task (PCCRT; Wieland, Green, Ellingsen, & Baker, 2014). The parent-child conflict resolution task is an observational measure conducted in the 13 and 15-year lab visits. While variations of this task have been used in previous research (e.g., Buhrmester, Camparo, Christensen, Gonzalez, & Hinshaw, 1992), we modified the procedures and developed a coding system for the present study. Mothers were given a form listing 12 typical areas of adolescent/parent disagreement (e.g. amount of time adolescent spends on the phone/Internet, adolescent's chores, adolescent's interactions with siblings), and the mother rated the level of disagreement with her adolescent in each area. The top three areas of disagreement were given to the adolescent in a separate room, and s/he picked the one s/he felt they argue about the most. The adolescent and parent were then brought into the same room and asked to discuss the identified area of disagreement and try to come up with a resolution. The maximum time for the task was 10 minutes, and the pair was asked not to stop before 5 minutes. The task was videotaped and pairs of coders used 5-point ordinal scales and arrived at consensus codes. Reliability was defined as a criterion of over 70% exact agreement with the primary coder and 95% agreement within one scale point. The present study examined the dimensions of

Engagement, Feeling/Idea Acknowledgement, Warmth, and Antagonism. The dimension scale scores were converted to z scores, which were combined to create the Positive Parenting composite (Marquis & Baker, in preparation), consisting of Engagement + Feeling/Idea Acknowledgement + Warmth – Antagonism.

Results

Risk factors

At child age 13, 44.4% ($n = 52$) of children had no risk factors, 23.9% ($n = 28$) had one risk factor, 13.7% ($n = 16$) had two risk factors, 15.4% ($n = 18$) had three risk factors, and 2.6% ($n = 3$) had all four risk factors. Of the children with one risk factor, 50.0% ($n = 14$) had ID, 21.4% ($n = 6$) had ADHD and/or ODD, 7.1% ($n = 2$) had depression, and 21.4% ($n = 6$) had low family income. Of the children with two risk factors, 56.3% ($n = 9$) had ID, 62.5% ($n = 10$) had ADHD and/or ODD, 56.3% ($n = 9$) had depression, and 25.0% ($n = 4$) had low family income. Of the children with three risk factors, 72.2% ($n = 13$) had ID, 94.4% ($n = 17$) had ADHD and/or ODD, 72.2% ($n = 13$) had depression, and 61.1% ($n = 11$) had low family income.

At child age 15, 43.6% ($n = 51$) of children had no risk factors, 24.8% ($n = 29$) had one risk factor, 22.2% ($n = 26$) had two risk factors, 7.7% ($n = 9$) had three risk factors, and 1.7% ($n = 2$) had all four risk factors. Of the children with one risk factor, 37.9% ($n = 11$) had ID, 17.2% ($n = 5$) had ADHD and/or ODD, 20.7% ($n = 6$) had depression, and 24.1% ($n = 7$) had low family income. Of the children with two risk factors, 69.2% ($n = 18$) had ID, 69.2% ($n = 18$) had ADHD and/or ODD, 15.4% ($n = 4$) had depression, and 46.2% ($n = 12$) had low family income. Of the children with three risk factors, 88.9% ($n = 8$) had ID, 100.0% ($n = 9$) had ADHD and/or ODD, 77.8% ($n = 7$) had depression, and 33.3% ($n = 3$) had low family income.

Risk factors and positive parenting

Table 4.2 shows the point-biserial correlations between each dichotomized risk factor and the PCIRS Positive Parenting score. In contrast to our hypothesis, child ID, child depression, and family low income were not significantly related to positive parenting at age 13 or 15. Child ADHD/ODD was related to less positive parenting at age 13, but the correlation was small.

Table 4.3 shows the point-biserial correlations between each dichotomized risk factor and the PCCRT score. Again, in contrast to our hypothesis, no risk factors were related to positive parenting, with the exception of child depression, which had a positive correlation (in the opposite direction as hypothesized) at age 13 with parenting at age 15.

Given the lack of significance between the risk factors and positive parenting in both parenting measures, a risk index was not made and the originally proposed linear regression models were not conducted. To investigate what factors might be accounting for the variation in levels of positive parenting, we further examined mother-related variables, as it may be the case that in adolescence mother characteristics are more related to parenting behavior than child characteristics or family income. Furthermore, although there were not significant differences in amount of positive parenting between the ID and TD samples, the experience of parenting an adolescent with ID is likely to require different parent cognitions and resources than parenting an adolescent on a typical developmental trajectory. Therefore we analyzed the ID and TD samples separately (See Tables 4.4 & 4.5).

Protective factors and positive parenting

As shown in Tables 4.4 and 4.5, optimism related to more positive parenting in the TD group, especially in regard to the PCCRT. Unexpectedly, optimism was not a significant predictor in the ID group, but mother education had some significant positive relations to more

positive parenting. Maternal health did not significantly predict positive parenting in either group.

It should be noted that maternal mental health, as measured by the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) and the Symptom Checklist (Derogatis, 1993), was investigated as a possible predictor of positive parenting, but results indicated no significant associations.

Discussion

Results indicated that the child and economic variables found to be related to less positive parenting in early and middle childhood were no longer salient risk factors in adolescence. This is not to suggest that parenting adolescents does not present challenges, but instead may be impacted by different factors than we found in earlier years. Perhaps by this age parents have acclimated to their child's behaviors and their economic resources, having had several years to resolve what works best for their child and family. Another point to consider is that by adolescence 15% ($n = 18$) of the children in the current sample are taking psychotropic medications that are likely to decrease problematic behavior that may have initially impacted parenting behaviors.

We next examined mother-related variables, as it may be the case that in adolescence mother characteristics are more related to parenting behavior than child characteristics or family income. And although there were not significant differences in positive parenting between the ID and TD groups, we examined the groups separately, as the experience of parenting an adolescent with ID is likely to require different parent cognitions and resources than parenting an adolescent on a typical developmental trajectory. The TD group results are in line with results from studies 1 and 2, which suggested that optimism was a consistent protective factor across

early and middle childhood, whereas education and health appeared to no longer correlate with parenting as children got older. The ID group results, on the other hand, did not indicate optimism to be a protective factor. The lack of significance found for most of the risk and protective factors indicated to be important in studies 1 and 2 highlights the importance of investigating additional factors that may be associated with positive, or resilient, parenting in adolescence. Part 2 builds upon previous and current studies, as well as takes a new approach, to continue the investigation of protective factors for positive parenting.

Part 2: Further Examination of Protective Factors

Studies 1, 2, and part 1 of Study 3 utilized an ABCX model to examine potential parent characteristics that might act as protective factors to facilitate positive parenting in the face of child and economic risk. The most robust finding across these studies was the association between mother optimism and positive parenting behaviors, suggesting that mother outlook is an important area for further study. Another important area that warrants investigation is the potential protective factor of social support, which has not been included in the current studies so far, but has been found to be strongly associated with resilience in general (Southwick, Vythilingam, & Charney, 2005).

Resilience Scale

In an effort to capture additional mother variables – and particularly, those related to outlook and social support – that might predict positive parenting in the face of challenges, a measure of general characteristics of resilience – the Resilience Scale for Adults (RSA; Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003) – was administered to mothers at child age 15. The RSA was developed to capture a set of fundamental protective factors that conserve well-being

despite exposure to adverse circumstances, and the current study examined the salience of these protective factors as related to resilient parenting during adolescence in both the TD and ID groups. The RSA was developed and extensively validated in Norwegian samples (Friborg et al., 2003; Friborg, Hjemdal, Martinussen, & Rosenvinge, 2009; Hjemdal, Friborg, Stiles, Rosenvinge, & Martinussen, 2006) and it has since been validated in Belgian and Iranian samples (Hjemdal, Friborg, Braun, Kempenaers, Linkowski, et al., 2011; Jowkar, Friborg, & Hjemdal, 2010). The present study is the first to use the RSA in an English-speaking American sample, and the first to use the RSA in sample of parents with children with ID. Therefore, we explored the psychometric properties and the construct validity of the RSA in the current sample prior to conducting main analyses.

Previous research has identified the importance of coping style, optimism, and social support as resilience factors for parents of children with developmental disabilities (Peer & Hillman, 2014), but little is known in regard to differences in level of protective resources as compared to parents of TD children. Therefore, RSA group differences were examined between parents of TD children and children with ID. Next, associations between RSA factors and positive parenting were analyzed within each group.

Hypotheses – RSA

- 1) The established six-factor structure of the RSA will be replicated in the current sample.
- 2) The RSA will demonstrate construct validity in the current sample, as shown by higher RSA scores correlating with lower scores of overall perceived distress on the Symptom Checklist (SCL), lower scores of depression on the Center for Epidemiologic Studies Depression Scale (CES-D), and higher scores of optimism on the LOT-R.

- 3) RSA total score and protective factors will correlate positively with positive parenting at age 15 in both the TD and ID groups.

Parent Interview

In addition to examining the protective factors from the RSA, Part 2 also included a qualitative investigation of protective factors for resilient parenting. Most of the existing literature has applied the concept of resilience as an academic concept, involving tests of discrete hypotheses. This approach presupposes that we know what to test, whereas collecting qualitative data can provide new insights into protective processes, perhaps revealing factors we had not previously considered to inform future quantitative studies (Luthar & Brown, 2007). Qualitative methods “allow people to speak in their own voice, rather than conforming to categories and terms imposed on them by others” (Sofaer, 1999, p. 1105). By eliciting participant perspectives and enabling the investigators to compare their own perception of reality with the perception of those who are being studied, qualitative methods serve to enhance the validity of data (Palinkas, 2014).

With this in mind, we took the approach of simply asking mothers about what they have found helpful when facing parenting challenges. In the final assessment of the Collaborative Family Study, at child age 15, at the end of a comprehensive interview, mothers were asked: “What has helped you most in dealing with any challenges you’ve had in parenting your child?”

Protective factors for resilient parenting may include similar components to existing theoretical frameworks that categorize determinants of parenting (e.g., Belsky, 1984) or protective factors for family resilience (e.g., Walsh, 2003), but there is a lack of comprehensive theory or knowledge regarding the specific topic in question – that is, what protects parenting behavior in the face of challenges, and how protective factors might differ between parents of

TD children and parents of children with ID. The goal when reviewing mothers' answers to this question was to allow for inductive category development; in other words, to gain direct information from the participants without imposing preconceived categories or theoretical perspectives, allowing for richer understanding of the research question (Hsieh & Shannon, 2005). Hence, knowledge generated from the content analysis is based on participants' unique perspectives and grounded in the actual data; the relatively large sample size afforded a diversity of responses, and the subsequent analysis techniques were structured to capture that complexity. Mixed methods were also utilized to complete an in-depth analysis of mothers who exhibited high levels of positive parenting in the observational tasks.

Method

Participants

Participants were mothers from CFS at child age 15 ($N = 117$). See Part 1 participants section for full description of sample.

Procedures

The mother and child came to the child study center at child age 15 for an assessment that included completing a packet of questionnaires and a semi-structured parent interview. See Part 1 procedures for further description of assessment procedures.

Measures

Resilience Scale for Adults (RSA; Friborg et al., 2003). The RSA is a self-report scale for measuring protective factors associated with resilience among adults. Several studies have found the RSA to be reliable and valid (Friborg et al., 2003, Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005; Hjemdal et al., 2006), as well as cross-culturally valid (Hjemdal, et al., 2011; Jowkar, et al., 2010). The RSA contains 33 items. It uses a 7-point scale and each

item has a positive attribute at one end and a negative attribute at the other. Half of the items are reverse-scored. Larger scores indicate higher levels of resilience factors. The RSA has six factors, including: *Perception of self* (confidence in own abilities, self-efficacy, realistic evaluation), *Planned future* (goal orientation and ability to plan), *Social competence* (extraversion, social flexibility, ability to establish friendship and humor), *Structured style* (planfulness, ability to organize and maintain routines), *Family cohesion* (shared values, shared optimistic view of future, loyalty, and mutual appreciation), and *Social resources* (social support, presence of important persons outside the family, help when needed). These six factors cover three overarching categories: 1) individual dispositions, 2) family cohesion, and 3) external social support outside the family.

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item self-report measure of depressive symptoms including mood, somatic complaints, and cognitions, completed by mothers at child age 13. Total scores can range from 0 to 60, with a cut-off of ≥ 16 for the clinical range. Alpha in the present sample for mothers at child age 13 was .93.

Symptom Checklist (SCL-35; Derogatis, 1993). The SCL is a well-established 35-item self-report measure of psychological symptomatology across dimensions of anxiety, depression, hostility, and interpersonal relatedness. The SCL was administered to mothers at child age 13. Total score alpha for the current sample at age 13 was .96.

Parent Interview Coding System. The Parent Interview Coding System was developed by the Collaborative Family Study based on an open-ended interview with parents that was piloted during the 12-year assessment and conducted again at the 13 and 15-year assessments. A single open-ended question from the 15-year interview asked: “What has helped you most in dealing

with any challenges you've had in parenting your child?" Responses to this open-ended question were audio recorded and transcribed verbatim by research assistants. In keeping with conventional approaches to qualitative data analysis (Hsieh & Shannon, 2005), an iterative process was used to review the textual data from interviews and utilized DeDoose Version 5.3 qualitative data web-based application (Sociocultural Research Consultants, 2014) to facilitate this work. Dedoose allows researchers to upload, highlight, and apply multiple levels of codes to transcripts, as well as provides a platform to incorporate quantitative data for mixed methods analyses. During review of the transcripts, response categories were identified and defined to capture information on emergent themes (i.e., thematic categories reported by five or more participants).

Vineland Adaptive Behavior Scales, Second Edition (VABS-II; Sparrow et al., 2005), Wechsler Intelligence Scale for Children – Fourth Edition (WISC-IV, Wechsler, 2003), Parent-Child Interaction Rating Scale (PCIRS; Belsky et al., 1995) and Parent-Child Conflict Resolution Task (PCCRT; Wieland et al., 2014) – See Part 1 measures for full descriptions.

Results

RSA

Internal consistency for the total RSA score was .94 and varied between .81 and .90 for five of the factors. The sixth factor (*Structured Style*), however, had low internal consistency (Cronbach's alpha = .52). All subscales were positively associated with each other, with correlation coefficients ranging from .20 to .79. When *Structured Style* was omitted, correlation coefficients ranged from .38 to .79.

Confirmatory factor analyses were performed with MPlus 7.31. Measurement model fit was evaluated according to root mean square error of approximation (*RMSEA*), comparative fit

index (*CFI*), and standardized root mean residuals (*SRMR*). $RMSEA < .06$, $CFI > .95$, and $SRMR < .10$ indicate a reasonably good model fit (Hu & Bentler, 1995).

Results indicated that the model fit was acceptable and in line with previous findings in Norwegian, Belgian, and Iranian samples ($RMSEA = .07$; $CFI = .86$; $SRMR = .07$; $SB \chi^2 = 902.21$, $p < .001$). Factor loadings were satisfactorily high ($>.40$), except for one item in the social competence subscale (“It is important to me to be flexible in social settings”) and one item in the structured style subscale (“I am at my best when I can take one day at a time”) (See Table 4.6). Since the structured style subscale demonstrated weak internal consistency, the confirmatory factor analysis was re-run without the four items that constitute this factor, and the model fit was somewhat better ($RMSEA = .07$; $CFI = .87$; $SRMR = .07$; $SB \chi^2 = 718.36$, $p < .001$). The *Structured Style* subscale was also found to be a poor fit in the overall model when examined in a Belgian sample (Hjemdal et al., 2011). Therefore, the structured style subscale was not included in subsequent analyses.

As hypothesized, the total RSA score had a negative correlation with the CES-D ($r = -.39$, $p < .001$) and SCL ($r = -.33$, $p < .001$) total scores, and a positive correlation with the LOT-R optimism score ($r = .60$, $p < .001$), demonstrating construct validity in the current sample.

Group means and standard deviations are presented in Table 4.7. T-tests revealed one trend-level difference, such that parents of TD children reported higher levels of social resources than parents of children with ID. Otherwise, there were no significant differences between the two groups.

Correlations between the RSA and positive parenting variables were conducted separately within the TD and ID groups (see Table 4.8). Within the TD group, higher social resources significantly related to higher PCIRS positive parenting. Higher social competence

related to higher PCIRS positive parenting and higher family cohesion related to higher PCCRT positive parenting at trend-level significance. Within the ID group, higher social resources was significantly related to higher PCCRT positive parenting.

Parent Interview

The major themes that emerged from the parent interview qualitative analysis were 1) informal social support, 2) formal social support, 3) outlook, 4) child characteristics, and 5) education/job. A total of 158 primary codes were given, as some respondents mentioned more than one category listed above. Table 4.9 summarizes the number of responses included in each category and further description of categories and subcategories is provided below.

Informal Social Support. Informal social support was mentioned by 60.0% of the mothers with TD children and by 41.0% of the mothers in the ID group ($\chi^2 = 2.92, p < .10$). This category was comprised of three subcategories: friends/other parents, spouse, and other family. Number of responses within each category were spread fairly evenly for both groups. Within the subcategory of friends/other parents, there were no significant group differences, and emergent themes included having someone to listen, provide reassurance, and offer advice. For example, one mother of a TD child reported: *“My friends – we’re all going through the same things trying to raise these kids. Bouncing things off one another to make sure we’re not losing our minds.”* A mother of a child with ID said: *“Friends. Talking to them and knowing it’s normal. Just because something happens doesn’t mean you fail as a parent.”*

There also was not a significant group difference within the subcategory of spousal support. Participants in both groups reported that it was helpful to have someone to share parenting responsibilities with. An emergent theme was agreement and support in parenting practices. For example, one participant (TD) said: *“Having a husband who’s supportive and on*

the same page and we agree for the most part about what's important and how to deal with problems when they come up.” Another (ID) shared: “Having the support of my husband who is pretty much on the same page with dealing with discipline or anything that we need to talk to her about. We’re of the same mindset of how to handle things.”

Other family members were also frequently brought up as an important source of support in the TD group, but less so in the ID group ($\chi^2 = 3.14, p < .10$). These responses shared commonalities with the friends/other parents category, with several references to family members providing parenting advice. Another emergent theme was family helping with living arrangements and childcare. For example, one participant (ID) answered: *“Family... helped me when I was young and immature and my aunt let me live with her so I could be more of a strong parent and reliable.”* Another (TD) said: *“I have a really good support system... Her grandparents are a great taxi system getting her to all her extracurricular activities.”*

Formal Social Support. Over one third (38.5%) of mothers in the ID group mentioned formal social support as helpful when facing parenting challenges, and significantly fewer (19.2%) mothers in the TD group referenced formal social support ($\chi^2 = 7.80, p < .01$). Formal social support included subcategories of mental health services and school resources. The majority of responses in the formal social support category referenced some type of mental health services. This included, but was not limited to, child therapy, parent support groups, and family therapy. In one example, a mother (ID) responded: *“Therapy. Physical therapy, speech therapy, and OT gets us physically and mentally a long way. Therapy helped me the most in advancing his development.”*

Some participants in each group identified school-related resources – primarily teachers – as helpful toward parenting their child. For example, one mother (TD) said: *“The support of her*

teachers... If we have any kinds of problems they give their input, I give my input, and we work together to solve it.”

Outlook. A frequently mentioned category among mothers in both the ID (30.8%) and TD (33.3%) groups was mothers’ outlook on life or parenting specifically. Within the overall category of outlook, four subcategories emerged. Subcategories included: Religious faith, self-efficacy, optimism, and patience. There were not significant group differences in the overall category of outlook or any of its subcategories.

Religious faith – most commonly, Christianity – was the most common subcategory in both the TD (24.4%) and ID (12.8%) groups. Responses in this category referenced faith as a source of hope, trust, and guidance. For example, one mother (TD) said: *“My relationship with God. It’s my guiding force in life. We have a lot of joy here and peace and trust and faith. Not that bad things don’t happen, but we can trust that he’s in control.”* Another (ID) said: *“My faith, praying, my belief system. It has strengthened me psychologically. It has given me hope.”*

The remaining three categories – self-efficacy, optimism, and patience – were reported with less frequency in both groups, but still notable. Some mothers discussed self-efficacy, reporting that their determination and ability to investigate problems and make a plan helped them in parenting their child. Responses included: *“I’m a fighter”* and *“If I have an issue I investigate it.”* Responses that included the theme of optimism (i.e., a positive outlook toward the future) included: *“My outlook, how I always think of the positive”* (ID), and *“My unwavering belief that he can do it and that he’s smart enough and that he wants it”* (TD). An example of a response that referenced patience was: *“Patience is helpful in that things are not going to be resolved immediately oftentimes”* (ID).

Child Characteristics. Child characteristics were reported by 15.4% of mothers in the TD group and 10.3% of mothers in the ID group (no significant group difference). Most responses that fell in this category referenced child characteristics that make the parent-child relationship easier. These included responses like: “*She’s been a really good kid and she plans ahead*” (TD), “*My son is easy going*” (ID), and “*He’s been really open and easy to talk to*” (TD). Some parents described characteristics that they admire about their child, and that motivate them as a parent. For example, one parent said: “*She is very resilient and I have learned a lot from her*” (TD). Another shared: “*She never ceases to amaze me. She is an exceptional human being and has a profound perception and a third eye*” (ID).

Education/job. Education and/or job were mentioned by 10.3% of participants in both groups. The majority of mothers who mentioned their education or jobs as helpful had school or work that involved working with children (e.g., counselor, teacher, school security officer, nurse, occupational therapist) where they gained experience working with children or gained knowledge of resources that helped them in parenting their own child. For example, one mother shared: “*My education helps me tell how to relate, how to read signs in early child development*” (TD). Another responded: “*My job because I work with special needs students; when I see other students behaving like him, I relate their problems to his*” (ID).

Subsample analyses. To further examine what factors might be most helpful in protecting positive parenting, we compared the participants in the top and bottom 25% of combined PCIRS and PCCRT scores. Of the participants in the top 25%, 17 were in the TD group (21.8% of TD sample) and 13 were in the ID group (33.3% of ID sample). Of the participants in the bottom 25%, 20 were in the TD group (25.6% of TD sample) and 10 were in

the ID group (25.6% of ID sample). This breakdown further supports the finding that mothers in the ID group exhibit similar or higher levels of positive parenting than mothers in the TD group.

Within the top 25%, 18 ($n = 12$ TD, $n = 6$ ID) reported informal social support, 9 ($n = 3$ TD, $n = 6$ ID) reported formal social support, 8 reported outlook ($n = 5$ TD, $n = 3$ ID), 3 reported child characteristics ($n = 2$ TD, $n = 1$ ID), and 5 reported education/job ($n = 2$ TD, $n = 3$ ID).

Within the bottom 25%: 11 ($n = 7$ TD, $n = 4$ ID) reported informal social support, 4 ($n = 2$ TD, $n = 2$ ID) reported formal social support, 11 reported outlook ($n = 7$ TD, $n = 4$ ID), 5 reported child characteristics ($n = 4$ TD, $n = 1$ ID), and 1 reported education/job ($n = 1$ TD, $n = 0$ ID). Notably, two mothers in the bottom 25% group reported that nothing had helped them. For example:

“Nothing helped me. I basically handled it on my own.” Other responses in this group also had negative connotations, although they were still coded within one of the categories. For example, a mother in the ID group said: *“My husband. He helps, but he doesn’t support me in all the things I do. He doesn’t see that I’m tired too. But he has helped with our child. He has to, it’s a responsibility.”*

Overall, analyses of these subsamples revealed a similar breakdown of categories as reflected in the overall sample. Further, chi-square analyses revealed no significant differences in any of the primary categories or sub-categories between the two groups, suggesting that coping process and strategies are not inherently good or bad, but rather, depends on the context of the specific situation in which it occurred (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

Discussion

Examination of the RSA and the above qualitative analysis of mother report of what has helped them when facing parenting challenges revealed both similarities and differences between

the TD and ID groups. Social support was frequently mentioned in both groups, which aligns with existing literature that parents' informal and formal support systems constitute key influences in their parenting (Bonds, Gondoli, Sturge-Apple, & Salem, 2002; Bronfenbrenner 1986; Green, Furrer, & McAllister, 2007; Jacobson & Frye, 1991; Jennings, Stagg, & Connors, 1991; Peer & Hillman, 2014). While both informal and formal support were emergent themes in both groups, informal social support was more prevalent in the TD group, while formal support was more prevalent in the ID group. One explanation for this discrepancy is that parents of children with developmental disabilities experience social stigma attached to their child's disability (Farrugia, 2009; Gill & Liamputtong, 2011) and therefore informal support may be (or seem) less accessible. This explanation also aligns with the group differences (albeit, of trend-level significance) in family cohesion and social resources on the RSA. It is encouraging that many mothers in the ID group reported formal support – particularly, mental health services – to be helpful. This supports previous findings that formal supports promote resilience and reduce stress in parents of children with disabilities (Cowen & Reed, 2002; Freedman, Litchfield, & Warfield, 1995; Heiman, 2002).

Outlook was the other main emergent theme in both groups and the most prevalent subcategory was religious faith. In a review of religion and family life, Mahoney (2010) summarized the existing research to conclude that higher levels of parent spiritual beliefs and practices seemed to facilitate positive parent-child relationships. Furthermore, a recent study found that religiosity predicted positive parenting interactions with both young children and adolescents (Spilman, Neppl, Donnellan, Schofield, & Conger, 2013). However, little is known empirically about how religiousness may operate in the face of challenging family circumstances (Mahoney, 2010). Walsh's (2003) family resilience framework includes "making meaning of

adversity” and “transcendence and spirituality” as processes thought to aid families in building resilience (i.e., reinterpret crises as challenges and grow psychologically through adversity). These processes correlate strongly with Lazarus’ concept of “positive reappraisal” (Folkman et al., 1986). In the current study, religious beliefs (e.g., faith in God) and practices (e.g., prayer) were reported with high frequency when mothers were specifically asked about parenting challenges, and appeared to operate as a protective factor as a source of hope, trust, and guidance. Data regarding the role of religion in the disability literature is scarce, and the literature that does exist presents mixed findings. Tarakeshwar and Pargament (2001) presented data to suggest that religious coping may help to reduce stress in parents of children with autism, possibly by offering meaning and alternative ways of interpreting parenting challenges. Hastings et al. (2005), on the other hand, found that religious coping was related to more mental health problems in parents of children with autism. The current qualitative data suggests that a sizeable portion of parents (with and without a child with ID) find their religious faith to be helpful when facing parenting challenges, but this topic warrants further study regarding the mechanisms by which religious outlook may be protective.

The remaining subcategories of outlook – self-efficacy, optimism and patience – were less frequently mentioned (<8%) in both groups. However, they can be conceptualized as a positive outlook when facing challenges, which is another resilience factor for parents within Walsh’s (2003) family resilience framework. Optimism, in particular, has an extensive research base as a resilience factor in general, as well as specifically promoting well-being in parents of children with ID (Baker et al., 2005; Kayfitz, Gragg, & Orr, 2010). Furthermore, reviews of the literature (primarily with TD child populations) indicate that high parenting self-efficacy is

linked with competent and positive parenting practices, even in the face of child behavior problems (Coleman & Karraker, 1998; Jones & Prinz, 2005).

In sum, results from Part 2 revealed additional factors that may be protective for positive parenting that we had not considered in earlier studies. Most notably, social support was indicated to be particularly helpful when facing parenting challenges, although it may come from more formal sources for parents of children with ID. Outlook was further supported as a protective factor, and while we had previously considered the role of optimism, we had not addressed faith or religiosity, which was implied here to be an important source of strength for many parents in the current sample. Overall, Part 2 highlights the importance of using a qualitative approach to take a closer look at what we have learned from quantitative research.

Part 3: Resilient Parenting of Adolescents with ASD

Part 3 explores the unique experience of parenting a child with ASD. It has been well documented that parents of a child with ASD experience higher levels of stress than parents of TD children and parents of children with other disabilities (for meta-analysis, see Hayes & Watson, 2013). However, there is little research that focuses on parenting *behavior* in families of children with ASD, perhaps because of sensitivity to inaccurate theories about the origin of the disorder and the accompanying legacy of blaming parents (Seltzer, Krauss, Orsmond, & Vestal, 2001; Siller & Sigman, 2002). Some recent research findings, based on mother self-report and speech samples, provide evidence that higher quality mother-child relationships and positive family processes, such as mother adaptability and praise, are associated with improved outcomes for individuals with ASD (Woodman, Smith, Greenberg, & Mailick, 2015; Baker,

Seltzer, & Greenberg, 2011; Greenberg, Seltzer, Hong, Orsmond, & MacLean, 2006), highlighting the importance of further examination of parent-child interactions in this population.

While there is a large body of literature on parenting practices in the general literature, the findings likely do not accurately depict the experience of parenting a child with ASD. These parents face specific parenting challenges, including adapting to child behavior problems, impairments in social interaction, restricted interests, and repetitive patterns of behavior (Totsika, Hastings, Emerson, Lancaster, & Berridge, 2011; Kanne & Mazurek, 2011). They must also cope with the impact of child services on family time and financial resources, provide support and accommodations for their child's education, and engage in frequent self- and child-advocacy (Barbarese et al., 2006; Pakenham, Samios, & Sofronoff, 2005; Woodgate, Ateah, & Secco, 2008). Furthermore, the understanding and conceptualization of ASD is rapidly and continuously changing (Rutter, 2011); as a result, parents of children with ASD are faced with a disorder for which etiology is unclear and optimal treatment is contested, and are often left navigating a complex and ever-changing course (Mackintosh, Goin-Kochel, & Myers, 2012).

Despite these parenting stressors unique to parents of children with ASD, relatively little is known about similarities or differences between parenting behavior of children with ASD from that of parents of TD youth. A few recent studies have used parent self-report to address this research question. Osborne & Reed (2010) examined parents of children with ASD (ages 2-16) and found that self-reported parenting scores in the domains of involvement, limit setting, and autonomy were slightly lower or comparable to general population means. Parents' self-reported communication was much lower than the general population mean, but increased with child age. Another study compared self-reported parenting between mothers and fathers of children (ages 8-18) with ASD and mothers and fathers of TD children (Lambrechts, Leeuwen,

Boonen, Maes, & Noens, 2011) and found that most parenting behaviors examined (i.e., positive parenting, discipline, harsh punishment, material rewarding, rules, and adapting the environment) did not differ between parents of children with ASD and parents of TD children; the only two group differences found were that parents of children with ASD used less punishment and more explicitly stimulated their child's development in comparison with parents of TD children. Results also revealed significant group by age interaction effects for punishment and stimulating development, such that punishment and stimulating development decreased with age among parents of TD children, but did not change with age among parents of children with ASD. Another study utilized the same dataset as Lambrechts and colleagues (2011), but focused solely on mothers (Maljaars, Boonen, Lambrechts, Van Leeuwen, & Noens, 2014). Results indicated that mothers of a child with ASD set fewer rules and utilized less discipline than mothers of TD children during childhood as well as adolescence. Additionally, they found a significant diagnosis versus age interaction for material rewarding and positive parenting, such that material rewarding increased and positive parenting decreased with age among parents of TD children, but remained the same in the ASD group. Overall, the results from these three studies suggest that parents of children with ASD and parents of TD children report similar parenting behaviors in several domains, as well as differences in trajectories of parenting behavior from childhood to adolescence. Specifically, results indicated that parents of typically developing children alter their parenting practices to incorporate more discipline and less stimulation of development and positive parenting as their children get older, whereas parents of children with ASD demonstrate more continuity in their parenting behaviors from childhood to adolescence.

This divergence in parenting practices as youth enter adolescence may be related to the social difficulties experienced by children with ASD. Typically, adolescence is an important period for the negotiation of autonomy-related changes in the parent-child relationship (Steinberg, 2001) and peers become more important as a source for adjustment (Laible, Carlo, & Raffaelli, 2000). However, given their social deficits, children with ASD likely depend on parental support for longer (Van Bourgondien, Dawkins, & Marcus, 2014), and thus their parents may not feel the need to alter their parenting practices as their children enter adolescence.

Current Study

The above findings are an important start to understanding parenting behaviors in the context of having a child with ASD, and the current study adds to the literature by examining parenting behavior of mothers of adolescents, with and without ASD, using observational measures of parent-child interaction. In addition to comparing parenting behavior between mothers of adolescents with ASD and mothers of TD adolescents, the current study also examined variables that may predict parenting behavior within the ASD group (see Parts 1 and 2 for predictors of parenting in the TD group). Parents of children with ASD face increased levels of the risk factors examined in studies 1 and 2 and part 1 of study 3, including high occurrence of DD (Centers for Disease Control, 2014) and behavior problems (Totsika et al., 2011). We also investigated the protective value of maternal health, education, optimism, and RSA factors. Lastly, we conducted a qualitative analysis of protective factors identified by this subsample of mothers of children with ASD.

Method

Participants

Participants were mothers of children with ASD ($n = 34$) or TD ($n = 78$) from CFS who had complete data for the variables of interest at child ages 13 and 15. Eighty percent of these youth had participated in the longitudinal study, and 20% joined at age 13. Participants in the ASD group primarily entered the study at age 13 (71%); the remaining 23.5% had entered the longitudinal study as children with TD or ID but later were professionally diagnosed with ASD. Within the ASD group, 47% ($n = 16$) had mild or borderline ID. See Part 1 for full description of ASD and ID classification.

Table 4.10 shows demographic characteristics at child age 13 by group status. There were statistically significant gender differences between groups, which can be explained by the expected higher prevalence rate of ASD among males (Centers for Disease Control & Prevention, 2012). Mothers in the ASD group presented with less employment outside of the home, but employment was not related to the outcome variables, and therefore was not co-varied in subsequent analyses. Mother perceived health was also significantly lower in the ASD group compared to the TD group, and was co-varied when significantly related to the outcome variables (specifically, in analyses that included age 15 PCIRS). There were no significant differences between groups in child race/ethnicity, mother race/ethnicity, mother age, mother education, marital status, or family income.

Procedures

The procedures in Part 3 have all been described in Part 1 procedures.

Measures

The measures in Part 3 have all been described in Parts 1 and 2. These are: *Vineland Adaptive Behavior Scales, Second Edition (VABS-II; Sparrow et al., 2005)*, *Wechsler Intelligence Scale for Children – Fourth Edition (WISC-IV, Wechsler, 2003)*, *Parent-Child*

Interaction Rating Scale (PCIRS; Belsky et al., 1995), and Parent-Child Conflict Resolution Task (PCCRT; Wieland et al., 2014) – See Part 1 for full descriptions. Resilience Scale for Adults (RSA; Friborg et al., 2003) and Parent Interview Coding System – See Part 2 for full descriptions.

Results

Comparison of parenting behavior in ASD and TD groups

Positive parenting was assessed using two behavioral measures. First, the PCIRS was coded from observations of mother and child during a problem-solving task; the positive parenting composite was comprised of positive affect + sensitivity + stimulation – detachment – negative affect – intrusiveness. Second, the PCCRT was coded from observations of mother and child discussing an area of disagreement and trying to come up with a resolution; the composite score was comprised of engagement + feeling/idea acknowledgment + warmth – antagonism. Comparisons of positive parenting variables between the ASD and TD groups are presented in Table 4.11. PCIRS positive parenting did not differ between the two groups at age 13 or age 15. PCCRT positive parenting did show a significant group difference at age 13, such that mothers in the ASD group had higher positive parenting scores than mothers in the TD group. This was replicated at age 15, although the difference was at trend-level significance.

Predictors of parenting in ASD group

Next, we examined variables that may predict parenting behavior within the ASD group (see Parts 1 and 2 for predictors of parenting in the TD group). Table 4.12 shows the point-biserial correlations between each dichotomized risk factor and the PCIRS and PCCRS positive parenting scores. Similar to the findings in the TD and DD groups in Part 1, there were no

significant associations between these variables and positive parenting at ages 13 and 15, with the one exception of child depression relating to less positive parenting at age 15.

Next, we examined mother-related variables (see Tables 4.13 and 4.14), as it may be the case that in adolescence mother characteristics have a stronger influence on positive parenting than child characteristics or family income. The one consistent finding across measures was a significant relationship between mother optimism and positive parenting at age 15. Results from the RSA indicated a significant relationship between social resources and PCCRT positive parenting, but there were no significant associations between RSA factors and PCIRS positive parenting.

Parent Interview

To further understand the experience of parenting a child with ASD and what mothers themselves identify as helpful when facing parenting challenges, answers to the question “What has helped you most in dealing with any challenges you’ve had in parenting your child?” were further analyzed within the ASD subsample (see Table 4.15). Formal social support was the most frequently mentioned overall category (52.9%); all participants in this category mentioned some form of mental health services and 2 participants also mentioned school resources. Informal social support was the second most frequently mentioned overall category (32.4%), with an emphasis on friends/other parents (20.6%); spouse and family were each mentioned by only 5.9% of the participants. Outlook was mentioned by 29.4% of the participants, with religious faith (17.6%) and self-efficacy (11.8%) as the most frequently reported sub-categories. No participants reported optimism and 1 reported patience. The last two categories – education/job and child characteristics – were mentioned by 14.7% and 5.9% of participants, respectively.

Chi-square analyses revealed significant differences between reports of mothers in the ASD group and mothers in the TD group (see Part 2 for full description of TD parent interview results). Specifically, mothers of children with ASD reported formal support (i.e. mental health services) with more frequency than mothers of TD children ($\chi^2 = 10.7, p < .01$), but reported informal social support with less frequency than mothers of TD children ($\chi^2 = 5.9, p < .05$). Further examination of the subcategories of informal social support revealed a significant group difference in report of spousal support (i.e., mothers in the TD group reported spousal support more often than mothers in the ASD group; $\chi^2 = 6.0, p < .05$), a trend-level significant difference in report of family support (i.e., mothers in the TD group reported family support more often than mothers in the ASD group; $\chi^2 = 3.8, p < .10$), and no significant difference in report of friends/other parents support. Although there was not a significant difference in frequency of report of friends/other parents, it should be noted over half of the mothers in the ASD group who mentioned friends/other parents as a source of support specified (unprompted) other parents with children with ASD. There was not a significant group difference in the category of outlook or the sub-categories of religion, optimism, or patience. However, there was a significant difference for the subcategory of self-efficacy, such that mothers in the ASD group reported self-efficacy as helpful with higher frequency than mothers in the TD group ($\chi^2 = 4.0, p < .05$). Lastly, mothers in the ASD group reported child characteristics less often than mothers in the TD group, at trend level significance ($\chi^2 = 2.8, p < .10$), and there was not a significant group difference for the category of education/job.

Discussion

Results indicate that parents of adolescents with ASD exhibit similar or higher levels of positive parenting as compared to parents of TD children, consistent with results from recent

studies that used parent self-report to examine group differences in parenting behavior (Osborne & Reed, 2010; Lambrechts et al., 2011; Maljaars et al., 2014). This pattern of results is interesting given the consistent finding in previous research that parents of children with ASD experience very high levels of parenting stress. (Note: Parenting stress was also elevated in the current sample – maternal stress was significantly higher ($p < .001$) in the ASD group as compared to the TD group, according to the negative impact composite of the Family Impact Questionnaire (Donenberg & Baker, 1993)). Along the same lines, a large-scale population-based study by Montes and Halterman (2007) found that mothers of a child with autism were highly stressed compared to mothers in the general US population, yet were more likely to report a close relationship and better coping with parenting tasks and less likely to report being angry with their child.

It has been hypothesized that the diagnosis of ASD itself may actually serve as a protective factor in the parent-child relationship, in that parents view the child as less responsible for his or her behavior (Hoffman, Sweeney, Hodge, Lopez-Wagner, & Looney, 2009). In line with this hypothesis, Whittingham, Sofronoff, Sheffield, and Sanders (2008) found that parents of children with ASD attributed most of their child's misbehavior to ASD symptoms, rather than their child's personality or temperament.

Another explanation for the current study's results is the fact that we observed parenting behavior during adolescence and results might have differed with a younger sample. There is some evidence to suggest that parents adapt to the stressors of parenting a child with ASD over time, although the focus of previous research on this question has been on parent well-being rather than parenting behaviors (e.g., Lounds, Seltzer, Greenberg, & Shattuck, 2007). One possible explanation for the apparent age-related improvements in maternal well-being could be

that effective coping strategies are developed over time. For instance, in a 10-year longitudinal, ethnographic study of parents of children with ASD, Gray (2002) found that parents were doing better over time and attributed these improvements to better coping abilities. However, other studies of ASD have shown no association between child age and parenting stress (Lecavalier et al., 2006; Manning, Wainwright, & Bennett, 2011).

In regard to predictors of parenting in the ASD group, the current results suggest that child characteristics and economic resources do not have a significant impact on positive parenting in adolescence. Although the ASD sample is small, making significant associations less likely, the size of the correlations themselves (most $<.30$) would explain little variance, even if significant with a larger sample. As suggested in Part 1, by the time their children are adolescents, parents may have acclimated to their child's behaviors and their economic resources. Specific to ASD, these results follow a similar pattern to that shown in parenting stress and well-being, such that behavior problems and ID, while elevated, do not appear to have a significant impact. The mother-related variables examined also did not, for the most part, demonstrate strong associations with positive parenting. Optimism was the one exception, with consistent positive associations across parenting measures at age 15.

Examination of mothers' responses to the parent interview question provided more insight into factors that mothers perceive as helpful when facing parenting challenges. In previous research, social support has been identified as a predictor of improved mood and decreased psychological distress for parents of children with ASD (Pottie, Cohen, & Ingram, 2009; Bromley, Hare, Davison, & Emerson, 2004; Ekas et al., 2010). The current findings suggest that these parents perceive support received through more formal avenues (e.g., regional centers) to be helpful when they face parenting challenges, but do not perceive the same amount

of helpfulness from informal support sources. This was most notable in the realm of spousal support, which was reported by over a quarter of mothers in the TD group, but by only 2 mothers (5.9%) in the ASD group. While this is a striking difference, it is not surprising given the higher rate of divorce for parents of children with ASD found by other investigators (Brobst, Clopton, & Hendrick, 2009; Hartley, Barker, Seltzer, Floyd, Greenberg, et al., 2010); furthermore, even for parents who remain married, having a child with ASD is associated with decreased marital satisfaction compared with married parents of TD children (Brobst et al. 2009).

There was not a significant difference between the two groups in report of informal social support from friends/other parents, but further investigation revealed that most of the mothers in the ASD group mentioned friends/other parents who also had a child with ASD. This may be due to proximity (e.g., children attending special education school), but may also signify the importance of shared experiences and understanding of challenges specific to parenting a child with ASD.

Outlook was another category that revealed a significant difference between the two groups. Specifically, self-efficacy was frequently mentioned in the ASD group, and significantly more often than it was mentioned in the TD group. Parenting self-efficacy in parents of typically developing children has been shown to predict level of parenting competence, even in the face of challenging child behavior (Jones & Prinz, 2005). Arguably, parenting self-efficacy could be particularly important when raising a child with ASD, due to the ever-changing perspectives on the etiology of ASD and optimal treatment methods (Lord & Bishop, 2010).

Part 3 results suggest that having a child with ASD is not a risk factor for less positive parenting, and that parents of adolescents with ASD may even exhibit higher levels of positive parenting than parents of TD adolescents. ID and behavior problems, while at elevated levels in

children with ASD, do not appear to influence parenting behavior. Rather, social support and mother outlook appear to be important factors related to positive parenting. Mothers identified formal social support (particularly mental health services), informal social support (particularly other parents with children with ASD), and their own outlook (particularly self-efficacy) as most helpful when facing parenting challenges.

Table 4.1. Demographic Characteristics for Child, Mother, and Family at Age 13 ($N = 117$)

	TD ($n = 78$)	ID ($n = 39$)	χ^2 and t
<i>Child</i>			
Gender (% male)	51.3	61.5	$\chi^2 = 1.10$
Race/ethnicity (% Caucasian)	60.3	46.2	$\chi^2 = 2.09$
WISC Composite Score	108.7 (12.7)	63.8 (12.6)	$t = 18.10^{***}$
Behavior Problems (CBCL Total)	46.8 (10.7)	57.7 (10.2)	$t = -5.17^{***}$
<i>Mother and Family</i>			
Mother Age in Years	45.6 (6.5)	43.4 (6.7)	$t = 1.71^+$
Mother Race/ethnicity (% Caucasian)	69.2	46.2	$\chi^2 = 5.85^*$
Mother Education (mean grade in school)	16.0 (2.3)	15.0 (2.3)	$t = 2.21^*$
Mother Employment (% employed)	87.2	56.4	$\chi^2 = 15.15^{***}$
Mother Health (1-4 scale)	3.1 (0.7)	2.9 (0.8)	$t = 1.52$
Marital Status (% married)	73.1	64.1	$\chi^2 = 1.00$
Family Annual Income (%50K)	78.2	56.4	$\chi^2 = 5.99^*$
Mother Optimism (LOT-R)	17.9 (4.3)	15.9 (4.8)	$t = 2.09^*$

⁺ $p < .10$, * $p < .05$, *** $p < .001$

Table 4.2. Point biserial correlation coefficients between dichotomized risk factors and PCIRS positive parenting at ages 13 and 15 ($N = 117$)

	PCIRS Positive Parenting (Age 13)	PCIRS Positive Parenting (Age 15)
Age 13 child ID	-.05	.03
Age 13 child ADHD/ODD	-.20*	-.12
Age 13 child depression	-.01	.07
Age 13 family low income	-.12	-.17 ⁺
Age 15 child ID	--	.03
Age 15 child ADHD/ODD	--	-.09
Age 15 child depression		.05
Age 15 family low income	--	-.05

⁺ $p < .10$, * $p < .05$

Table 4.3. Point biserial correlation coefficients between dichotomized risk factors and PCCRT at ages 13 and 15 ($N = 117$)

	PCCRT Conflict Resolution (Age 13)	PCCRT Conflict Resolution (Age 15)
Age 13 child ID	-.06	.01
Age 13 child ADHD/ODD	-.07	.13
Age 13 child depression	-.04	.23*
Age 13 family low income	-.06	-.15
Age 15 child status	--	.01
Age 15 child ADHD/ODD	--	-.09
Age 15 child depression		-.03
Age 15 low income	--	-.09

* $p < .05$

Table 4.4. Correlations between mother variables and positive parenting at age 13 and 15 – TD ($n = 78$)

	PCIRS Positive Parenting (Age 13)	PCIRS Positive Parenting (Age 15)	PCCRT Positive Parenting (Age 13)	PCCRT Positive Parenting (Age 15)
Age 13 education	-.09	.11	-.02	.07
Age 13 health	.09	.11	.20 ⁺	.06
Age 13 optimism	.22 ⁺	.21 ⁺	.29 [*]	.30 ^{**}
Age 15 education	-	.09	-	.08
Age 15 health	-	.13	-	.07
Age 15 optimism	-	.11	-	.39 ^{***}

⁺ $p < .10$, ^{*} $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$,

Table 4.5. Correlations between mother variables and positive parenting at age 13 and 15 – ID ($n = 39$)

	PCIRS Positive Parenting (Age 13)	PCIRS Positive Parenting (Age 15)	PCCRT Positive Parenting (Age 13)	PCCRT Positive Parenting (Age 15)
Age 13 education	.13	.34 [*]	.16	.34 [*]
Age 13 health	.09	-.07	.21	-.03
Age 13 optimism	-.06	.01	.13	-.03
Age 15 education	-	.39 [*]	-	.29 ⁺
Age 15 health	-	.03	-	.01
Age 15 optimism	-	.14	-	.19

⁺ $p < .10$, ^{*} $p < .05$

Table 4.6. Standardized RSA factor loadings ($N = 117$)

Items	Perception of self	Planned future	Social competence	Family cohesion	Social resources	Structured Style
1PS	.56					
2PS	.71					
3PS	.66					
4PS	.73					
5PS	.77					
6PS	.57					
7PF		.77				
8PF		.82				
9PF		.78				
10PF		.80				
11SC			.44			
12SC			.37			
13SC			.87			
14SC			.85			
15SC			.50			
16SC			.66			
17FC				.63		
18FC				.82		
19FC				.86		
20FC				.76		
21FC				.72		
22FC				.73		
23SR					.72	
24SR					.72	
25SR					.78	
26SR					.54	
27SR					.83	
28SR					.75	
29SR					.57	
30SS						.21
31SS						.44
32SS						.66
33SS						.68

Note. PS = Perception of self, PF = Planned future, SC = Social competence, FC = Family cohesion, SR = Social resources, SS = Structured style

Table 4.7. RSA means by ID/TD status ($N = 117$)

	TD ($n = 78$)	ID ($n = 39$)	t
RSA Total	179.11 (25.20)	171.00 (31.56)	1.44
RSA Perception of self	33.61 (6.06)	31.78 (7.03)	1.42
RSA Planned future	21.76 (5.23)	20.08 (6.12)	1.52
RSA Social competence	31.72 (6.80)	30.87 (7.61)	0.61
RSA Family cohesion	33.01 (6.76)	30.68 (9.48)	1.51
RSA Social resources	42.36 (6.31)	40.05 (7.86)	1.67 ⁺

⁺ $p < .10$

Table 4.8. Correlations between RSA and positive parenting ($N = 117$)

	TD ($n = 78$)		ID ($n = 39$)	
	PCIRS Positive Parenting	PCCRT Positive Parenting	PCIRS Positive Parenting	PCCRT Positive Parenting
RSA Total	.13	.16	.01	.24
RSA Perception of self	.06	.12	-.08	.09
RSA Planned future	-.02	.11	.02	.15
RSA Social competence	.21 ⁺	.07	-.06	.20
RSA Family cohesion	.11	.21 ⁺	.11	.10
RSA Social resources	.25 [*]	.18	.10	.39 [*]

⁺ $p < .10$, ^{*} $p < .05$

Table 4.9. Categories of mother responses to parent interview question at age 15 – TD and ID ($N = 117$)

<i>Category</i>	<i>Subcategories</i>	<i>% Reporting – TD (n = 78)</i>	<i>% Reporting – ID (n = 39)</i>
Informal Social Support		60.0% ($n = 46$)	41.0% ($n = 16$)
	Friends/other parents	26.9% ($n = 21$)	17.9% ($n = 7$)
	Spouse	25.6% ($n = 20$)	17.9% ($n = 7$)
	Family	20.5% ($n = 16$)	7.7% ($n = 3$)
Formal Social Support		19.2% ($n = 15$)	38.5% ($n = 15$)
	Mental Health Services	11.5% ($n = 9$)	33.3% ($n = 13$)
	School Resources	2.6% ($n = 2$)	7.7% ($n = 3$)
Outlook		33.3% ($n = 26$)	30.8% ($n = 12$)
	Religious faith	24.4% ($n = 19$)	12.8% ($n = 5$)
	Self-efficacy	2.6% ($n = 2$)	7.7% ($n = 3$)
	Optimism	5.1% ($n = 4$)	5.1% ($n = 2$)
	Patience	3.8% ($n = 3$)	5.1% ($n = 2$)
Child characteristics		15.4% ($n = 12$)	10.3% ($n = 4$)
Education/job		10.3% ($n = 8$)	10.3% ($n = 4$)

Table 4.10. Demographic characteristics for TD and ASD groups at age 13 ($N = 112$)

	TD ($n = 78$)	ASD ($n = 34$)	χ^2 and t
<i>Child</i>			
Gender (% male)	51.3	79.4	$\chi^2 = 7.80^{**}$
Race/ethnicity (% Caucasian)	60.3	52.9	$\chi^2 = 0.52$
WISC Composite Score	108.7 (12.7)	89.0 (25.9)	$t = 5.41^{***}$
Behavior Problems (CBCL Total)	46.8 (10.7)	63.5 (9.1)	$t = -7.68^{***}$
<i>Mother and Family</i>			
Mother Age in Years	45.6 (6.5)	46.6 (11.1)	$t = -0.59$
Mother Race/ethnicity (% Caucasian)	69.2	64.7	$\chi^2 = 0.22$
Mother Education (mean grade in school)	16.0 (2.3)	15.3 (2.2)	$t = 1.58$
Mother Employment (% employed)	87.2	70.6	$\chi^2 = 5.22^*$
Mother Health (1-4 scale)	3.1 (0.7)	2.7 (0.8)	$t = 2.53^*$
Marital Status (% married)	73.1	70.6	$\chi^2 = 0.07$
Family Annual Income (%50K)	77.6	67.6	$\chi^2 = 0.77$
Mother Optimism (LOT-R)	17.9 (4.3)	15.5 (4.8)	$t = 2.43^*$

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

Table 4.11. Comparison of parenting behavior in ASD & TD groups at ages 13 and 15 ($N = 112$)

<i>Category</i>	<i>TD (n = 78)</i>	<i>ASD (n = 34)</i>	<i>t</i>
PCIRS Positive Parenting (Age 13)	0.05 (3.16)	0.67 (4.00)	-0.87
PCIRS Positive Parenting (Age 15)	-0.25 (3.32)	-0.15 (4.28)	-0.13
PCCRT Positive Parenting (Age 13)	-0.18 (2.76)	1.23 (2.74)	-2.50*
PCCRT Positive Parenting (Age 15)	-2.22 (2.48)	0.77 (3.13)	-1.78 ⁺

⁺ $p < .10$, * $p < .05$

Table 4.12. Correlation coefficients between risk factors and positive parenting in ASD group at ages 13 and 15 ($n = 34$)

	PCIRS Positive Parenting (Age 13)	PCIRS Positive Parenting (Age 15)	PCCRT Positive Parenting (Age 13)	PCCRT Positive Parenting (Age 15)
Age 13 child ID	-.19	-.05	-.23	-.08
Age 13 child ADHD/ODD	-.28	-.25	-.18	-.01
Age 13 child depression	.05	.02	-.10	.13
Age 13 family low income	-.11	-.13	.10	-.17
Age 15 child ID	--	.06	--	-.08
Age 15 child ADHD/ODD	--	-.12	--	-.24
Age 15 child depression	--	.05	--	-.42*
Age 15 family low income	--	-.13	--	-.14

* $p < .05$

Table 4.13. Correlations between mother variables and positive parenting in ASD group at ages 13 and 15 ($n = 34$)

	PCIRS Positive Parenting (Age 13)	PCIRS Positive Parenting (Age 15)	PCCRT Positive Parenting (Age 13)	PCCRT Positive Parenting (Age 15)
Age 13 education	.18	.15	.08	.34*
Age 13 health	-.25	-.36*	.02	.06
Age 13 optimism	.27	.23	.10	.29
Age 15 education	--	.06	--	.13
Age 15 health	--	-.05	--	-.01
Age 15 optimism	--	.42*	--	.30**

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

Table 4.14. Correlations between RSA and positive parenting in the ASD group at age 15 ($n = 34$)

	PCIRS Positive Parenting	PCCRT Positive Parenting
RSA Total	.18	.37*
RSA Perception of self	.13	.30 ⁺
RSA Planned future	.12	.23
RSA Social competence	.05	.28
RSA Family cohesion	.26	.32 ⁺
RSA Social resources	.23	.41*

⁺ $p < .10$, * $p < .05$

Table 4.15. Categories of responses to parent interview questions in ASD group at age 15 (*n* = 34)

<i>Category</i>	<i>Subcategories</i>	<i>% Reporting</i>
Informal Social Support		32.4% (n=11)
	Friends/other parents	20.6% (n=7)
	Spouse	5.9% (n=2)
	Family	5.9% (n=2)
Outlook		29.4% (n=10)
	Religious faith	17.6% (n=6)
	Self-efficacy	11.8% (n=4)
	Optimism	0.0% (n=0)
	Patience	2.9% (n=1)
Formal Social Support		52.9% (n=18)
	Mental Health Services	52.9% (n=18)
	School Resources	5.9% (n=2)
Child characteristics		5.9% (n=2)
Education/job		14.7% (n=5)

CHAPTER V. Conclusions

The above studies examined factors that promote positive parenting in the presence of risk across three developmental periods – early childhood, middle childhood, and adolescence. Results indicated that during early and middle childhood, parenting is less positive given child and economic risk factors, but also that mother attributes (particularly, mother optimism) can buffer this risk-poorer parenting relationship. However, this did not replicate in adolescence, and results indicated that child and economic risk were no longer significant risk factors for less positive parenting during this developmental period. This may suggest that parents acclimate to their child's behaviors and their economic resources over time, and that parenting is influenced by other factors. The most stable result throughout these three studies was the protective value of optimism for positive parenting. Other mother-related protective factors appeared to vary over developmental periods (e.g., mother education was strongly related to positive parenting in early childhood, but not subsequently). Further insight into protective processes for positive parenting was provided by simply asking mothers what had helped them most when facing parenting challenges. In particular, the construct of religious faith emerged from qualitative analysis of this data.

Comparisons were conducted between TD and ID groups, and revealed no significant differences in positive parenting. Results were similar when comparing TD and ASD groups, and even indicated that mothers of children with ASD may exhibit more positive parenting than mothers of TD children. However, there did appear to be differences in factors that predict positive parenting in the different groups. Most notably, social support was indicated in all groups, but mothers in the TD group reported more informal social support, whereas mothers in the ID and ASD groups reported more formal support.

Although these studies had some notable strengths in the methodology, including observational measures of parenting and longitudinal data, it is important to consider the results within the context of methodological limitations. While there was adequate variability in the number of risk factors present among participants, it would be important for future research to examine these processes in the context of a higher-risk sample (e.g., more severe DD, families living in greater poverty, and mothers with less education) to enhance generalizability. It will also be important for future researchers to collect data (e.g., regarding severity of child behavior problems, depiction of maternal health) from multiple reporters and methods. Other than the observational measure of parenting, only mother-report and questionnaire measures were used. Also greater attention should be given to individual and cultural differences, as there are numerous interpretations of what constitutes adverse or stressful circumstances, and it is difficult to capture these interpretations using standard measures that do not tap into ethnic diversity (Ungar, 2004)

Although there is still much to be learned about resilient parenting, the findings from these studies have implications for intervention, specifically parent support programs. Although many parents face significant challenges, some of these parents are still able to manage effectively and employ positive parenting practices. The current study findings provide evidence for factors that promote positive parenting even in the face of risk, and this can provide practitioners with proactive avenues for parent support and, subsequently, child well-being. For example, optimism appears to be an important protective factor for positive parenting, and there is evidence that higher dispositional optimism can be learned (Seligman, 2002). A focus on resilient parenting directs attention toward promoting positive parent cognitions and adaptive environmental resources to build parenting strengths, thereby increasing a professional's ability

to be an influential partner in helping parents be effective caregivers, even in the face of formidable challenges.

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