THE EFFECTS OF PARENTING ON WELL-BEING

IN FAMILIES REUNITED AFTER FOSTER CARE

by

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DISSERTATION ABSTRACT

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Child maltreatment is a costly social problem that carries with it significant risk of poor outcomes across the lifespan. There is a large body of research on risk and protective factors associated with child maltreatment. However, there is a significant gap in the literature on family functioning after children are reunified with their families. The current study proposed a conceptual model of family functioning based on a socioecological perspective. Hypotheses related to the effects of parenting on well-being were tested using a series of structural equation models. Results indicated modest support for the directional effects of improved parenting on parental well-being and the importance of social support for these families.

Overall, this study points to the necessity of continued interaction with families after reunification and the importance of a multi-dimensional perspective. Many mothers continued to struggle with substance use months after reunification, indicating the need for long-term interventions and continued assessment of family well-being. The current study provides data to support changes in public policy and practice which would emphasize continuing long-term service provision. In particular, these families are likely to benefit most from empirically-supported parent training and the development of social support skill-building.

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In Memoriam
James D. Barton, Jr.
1945 – 2009

Act justly. Love mercy. Walk humbly.
Micah 6:8

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CHAPTER I

INTRODUCTION

Child maltreatment is a costly social problem that carries with it significant risk of poor outcomes across the lifespan. These risks are multiplied when children enter out-of-home care and again when reunification failure with the family of origin results in re-entry into the child welfare system. There is a large body of research on risk and protective factors associated with child maltreatment. However, there is a significant gap in the literature on family functioning after children are reunified with their caregivers. The current study proposes a conceptual model based on a socioecological perspective that takes into account contextual and individual variables. Within the current study, hypotheses related to the effects of parenting on well-being are tested in an attempt to better understand and predict well-being and behavior in this vulnerable population.

Purpose and Organization of Dissertation

This primary purpose of this dissertation is to address the lack of attention paid to child welfare-involved families once reunification has occurred. This work begins with a review of the available literature covering child maltreatment, foster care, and reunification with the family of origin. This is followed by sections on contributions to family functioning from parents, from children, and from parent-child interactions. Within each of these sections, selected risk and protective factors associated with child maltreatment are reviewed. The last section of the introduction begins with the presentation of a conceptual model for understanding family functioning as it relates to this vulnerable population. This section concludes with the presentation of the specific aims of the current study. This work continues with a description of the methods used, as

well as the presentation of specific testable hypotheses. In the results section, I begin by describing the creation of manifest and latent variables using the Pathways Home dataset. This is followed by the results of exploratory data analysis, and I then report the results of the hypothesis tests as proposed in the methods section. Finally, these results are discussed in terms of their contribution to the existing literature as well as implications for both clinical practice and public policy.

Child Maltreatment

Child maltreatment is a costly social problem that carries with it significant risk of poor outcomes across the lifespan. Roughly 3.4 million referrals were made to child welfare agencies across the United States in 2011 (US DHHS, 2012a). Of these, almost 61% were screened in for services, and of those screened in, more than 78% also had indications of neglect. In a recent nationally representative survey of more than 4500 children aged 0-17, 1 in 10 children experienced some type of child maltreatment (Finkelhor, Turner, Ormrod, & Hamby, 2009). Fang, Brown, Florence, and Mercy (2012) estimated the cost of child maltreatment in the United States to be $124 billion per year.

Maltreatment is typically classified into four categories: physical abuse, sexual abuse, physical neglect and supervisory neglect (Fang et al., 2012). Hussey, Chang, and Kotch (2006) investigated prevalence rates by type of maltreatment using data from a study of more than 10,000 adolescents. More than 40% of the sample reported at least one instance of supervision neglect occurring before reaching the 6th grade (e.g., being left home alone when an adult should have been providing supervision); almost 20% of those endorsing supervision neglect reported that it occurred 3 or more times. The second most-often endorsed type of maltreatment (28.4%) was physical assault (e.g., being

slapped, hit, or kicked by a parent or other adult caregiver); of those, half reported it occurred more than 3 times. Physical neglect (e.g., situations in which caregivers did not meet the child's basic needs, such as providing adequate food, shelter, or clothing) was endorsed by more than 1 in 10 respondents (11.8%); 1 in 20 respondents (5%) reported it happened 3 times or more. Contact sexual abuse (e.g., being forced to touch in a sexual way) perpetrated by a parent or other adult caregiver was reported by 4.5% of respondents, with 1.6% of the sample reporting it happened 3 or more times.

The numerous short- and long-term effects of child maltreatment have been well documented. These include physical effects, such as reductions in quality of life due to health-related problems (Corso, Edwards, Fang, & Mercy, 2008), increased negative physical and psychological effects due to physical disability (Dominguez, Chalom, & Costarino, 2001), and higher risk for the development and maintenance of chronic disease (Browne & Finkelhor, 1986; Felitti et al., 1998). Psychological difficulties include higher risk of both internalizing (e.g., depression and anxiety) and externalizing (e.g., aggressive and antisocial behaviors) problems (e.g., Bolger & Patterson, 2001; Dodge, Pettit, & Bates, 1994; Graham-Bermann & Seng, 2005; Hazen, Connelly, Roesch, Hough, & Landsverk, 2009; Higgins & McCabe, 2003; Johnson, Kotch, Catellier, & Winsor, 2002; Martin, Bergen, Richardson, Roeger & Allison, 2004; Neigh, Gillespie, & Nemeroff , 2009; Runyon & Kenny, 2002; Rogosch, Cicchetti, & Aber, 1995), and higher risk for mental health problems such as the development of post-traumatic stress disorder (PTSD; Browne & Finkelhor, 1986; Holmes & Sammel, 2005; Moeller, Bachmann, & Moeller, 1993).

These problems may be one reason for the increased risk for negative health

behaviors such as risky sexual behaviors, teenage pregnancy, and earlier (and heavier)

use of alcohol, tobacco, and illicit substances (e.g., Hamburger, Leeb, & Swahn, 2008;

Herrera & McCloskey, 2003; Higgins & McCabe, 2003; Roberts, O'Connor, Dunn, &

Golding, 2004). Social impacts include higher risk for adolescent delinquent behaviors,

truancy, adult criminality and violent behavior (Fang & Corso, 2007; Widom &

Maxfield, 2001) as well as decreased probability of economic success (Currie & Widom,

2010).

As detailed above, effects of child maltreatment are often categorized into

physical and psychological effects. Examinations of brain-behavior relationships are

supported by growing evidence that Adverse Childhood Events (ACEs) provoke changes

to the brain that can persist across the life course; these include effects on specific brain

structures (e.g., amygdala, corpus collosum, hippocampus), reductions in brain volume,

and changes in the hypothalamic-pituitary-adrenal-corticosteroid (HPAC) axis (i.e., the

brain's stress response system; Glaser, 2000; Heim & Nemeroff, 2009; Heim et al., 2000;

MacMillan et al., 2009; Neigh et al., 2009; Twardosz & Lutzker, 2010). A large body of

evidence supports the hypothesis that changes to the developing brain (both chemical and

biological) have an impact on children's development and behavior (e.g., Cicchetti &

Toth, 1995; Perry, 2002; Perry, Pollard, Blakely, Baker, & Vigilante, 1995). It is likely

that the brain is sensitized by traumatic events, and this effect may be even stronger

during sensitive periods of brain development or critical periods of brain growth (Perry,

2002; Perry et al., 1995). This sensitization then causes the functional brain to be

reorganized in a dysfunctional and/or atypical fashion (Perry, 2002), which results in

reductions in physical and mental health, as well as maladaptive behaviors (e.g., substance abuse).

From a developmental psychopathology perspective, type of maltreatment (including chronicity and severity) and timing of adverse childhood events (ACEs) may affect both type and severity of outcomes (see Pechtel & Pizzagalli, 2011, for a review of the effects of early life stress on cognitive and affective functioning). For example, Norman and colleagues (2012) conducted a meta-analysis to assess risk of negative outcomes associated with non-sexual child abuse. They found that the experiences of physical abuse, emotional abuse, and neglect all increased the odds of negative outcomes (i.e., depressive disorders, suicide attempts, drug use, and risky sexual behaviors), but that these odds were different for each type of maltreatment by outcome comparison. In another study, children who experienced early physical neglect (before age 2), but did not experience any other type of maltreatment, showed higher levels of aggressive behaviors during early and middle childhood (Kotch et al., 2008).

In terms of negative physiological outcomes, Widom and colleagues (2012) used a prospective cohort design, and matched children with a documented history of physical maltreatment to children without a maltreatment history. They found that physical neglect predicted negative outcomes for hemoglobin A1C (a measure of diabetes), lower albumin levels, reduced peak airflow, and vision problems. In contrast, a history of physical abuse predicted poorer outcomes for A1C and albumin, and also malnutrition and blood urea nitrogen (but not, for example, more vision problems). Additional health outcomes for children who experienced physical abuse include a much greater risk of developing arthritis, asthma, allergies, bronchitis, high blood pressure, cardiac problems and liver

troubles (Springer, Sheridan, Kuo, & Carnes, 2007). In terms of behavioral outcomes, as compared to children who experienced other types of maltreatment, young children who have a history of physical abuse may be at higher risk of aggressive and externalizing behaviors (Dodge, Pettit, & Bates, 1994; Turner, Finkelhor, & Ormrod, 2006).

Children who are the victims of child sexual abuse (CSA) are at greater risk for a wide range of psychological, physical, and behavioral outcomes. These include hepatitis C and oral health problems (Widom et al., 2012), more negative perceptions of health, more non-organic gastrointestinal problems, chronic pelvic pain and higher rates of obesity (Shonkoff, Boyce, & McEwen, 2009). Psychological outcomes include higher risk of a wide range of psychiatric diagnoses. A meta-analysis conducted by Chen and colleagues (2010) identified 37 eligible studies of the effects of CSA, with a total of more than 3.1 million participants. Results indicated that a history of CSA made participants three times more likely to have a history of anxiety disorders, and four times more likely to attempt suicide. Odds were also high for depression, eating disorders, PTSD, and sleep disorders. CSA victims are also at greater risk of developing risky health behaviors, including substance use, smoking, reduced amounts of exercise, and increased risky sexual behaviors (Chartier, Walker, & Naimark, 2009; Springs & Friedrich, 1992; Walker et al., 1999).

For all types of abuse, chronicity and age of onset also have differential effects. For example, chronic (as opposed to acute, or single-event) maltreatment that begins early in a child's life (infancy through age 5-6) has stronger associations with severe outcomes than maltreatment that occurs later in the child's life (Higgins & McCabe, 2003; Manly, Kim, Rogosch, & Cicchetti, 2001). There is some evidence of direct linear

association between increases in maltreatment incidents and higher levels of depression and aggression (Turner et al., 2006). Regarding interactions between chronicity and age of onset, Manly and colleagues (2001) found that chronic physical neglect that occurred before preschool was associated with more internalizing and withdrawal behaviors than were exhibited by children who experienced maltreatment at a later age.

Foster care. The majority of studies investigating Child Welfare Service (CWS) outcomes for children focus on children who have been placed in foster care (as opposed to placement in kinship homes outside the domain of CWS). These children are at significantly higher risk for negative psychological (e.g., emotional and behavioral difficulties), cognitive (e.g., developmental delays), and physiological outcomes (e.g., chronic physical disabilities; Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998; Halfon, Berkowitz & Klee, 1992; Hochstadt, Jaudes, Zimo, & Schachter, 1987; Horwitz, Simms, & Farrington, 1994; Mofatt, Peddie, Stulginskas, Pless, & Steinmetz, 1985; Schor, 1982; Simms & Halfon, 1994; Trupin, Tarico, Low, Jemelka, & McClellan, 1993).

Emotional disturbances and behavioral difficulties are the two problems most frequently identified in investigations of the effects of foster care on children (Reid, Webster-Stratton & Hammond, 2007). Rates for emotional and behavioral difficulties are estimated to be between 35 and 85% according to reviews of studies of children who have been placed in out-of-home care (Landsverk & Garland, 1999; Landsverk, Garland, & Leslie, 2002; Pilowsky, 1995). Even the lowest reported rates are at least 1.5 times higher than those reported in the overall population (e.g., 6 – 20%; Costello et al., 1996; Shaffer et al., 1996). For example, Freidman and colleagues (1996) reported prevalence rates of 20% for a psychiatric disorder in the general population of foster children aged 0-

17 years old, and rates ranging from 5% to 9% for more severe disturbances accompanied by functional impairment in children aged 9-17 years old (Friedman, Katz-Leavy, Manderscheid, & Sondheimer, 1996).

Recent work appears to indicate that the predominant category of foster care-related problematic behaviors can be thought of as externalizing behaviors associated with functional impairment. For example, one study found 40% of children living in foster care met criteria for at least one psychiatric diagnosis, and of those, the greatest number of them were diagnosed with some type of disruptive disorder (e.g., oppositional defiant disorder, conduct disorder, and attention deficit/hyperactivity disorder; Garland, Hough, Landsverk, & Brown, 2001). There are strong links between early disruptive disorders and later difficulties with substance use, juvenile delinquency, and association with deviant peers (e.g., Caspi, Moffitt, Newman, & Silva, 1996; Kellam, Brown, Rubin, & Ensminger, 1983; Kessler et al., 1996; Kessler et al., 1997; Patterson, Reid, & Dishion, 1992).

Not only do these difficulties follow children into adolescence, but the effects of foster care often continue into adulthood. For example, Juon, Ensminger, and Feehan (2003) followed into adulthood a sample of African-American first graders placed in foster care. They found that foster care placement was the most powerful predictor of early mortality, and that the causes of death included severe illnesses (e.g., cardiac disease) as well as homicide, suicide, and drug overdoses. Another study of adolescent and adult outcomes used a national sample to randomly select young adults who experienced foster care and matched them with those who did not on a number of characteristics (e.g., age, race, gender, parent's education, etc.; Buehler, Orme, Post, &

Patterson, 2000). The findings indicated that adults with a foster care history had more problems adjusting to adult life across a number of domains, including less education and lower socioeconomic status, more marital problems and higher levels of spousal conflict, and were generally less happy than the adults without a foster-care history matched on demographic variables.

Reunification. In the large majority of cases within the CWS system, the initial goal is to reunify the child with the family of origin, according to a relatively recent report (US DHHS, 2001). This is contrasted with other goals within the CWS system that in the past received more attention (e.g., family preservation efforts designed to avert removal of children from the home, and keep children with their families of origin; Fraser, Walton, Lewis, Pecora, & Walton, 1996). The relatively newer emphasis on reunification is now federal policy, initiated by the passing of the Adoption and Safe Families Act (ASFA, P.L. 105-89). All state agencies are now required to track re-entry of children into the foster care system, and to enact policies and procedures designed to minimize this phenomenon.

There is a significant body of evidence supporting the premise that children who have problems in foster care environments are at greater risk for a host of difficulties after reunification. Children in the foster care system have higher rates of both emotional and behavioral problems (e.g., Landsverk & Garland, 1999; Landsverk, Garland, & Leslie, 2001; Pilowsky, 1995), and growing evidence points particularly to disruptive and externalizing behaviors (e.g., excessive physical aggression, defiance of rules, etc.; Aarons, Brown, Hough, Garland, & Wood, 2001; Garland, Landsverk, Hough, & Ellis-McLeod, 1996; Garland et al., 2001; Klee, Kronstadt, & Zlotnick, 1997; Trupin et al.,

1993). Additionally, some studies have found rates of substance use as high as 20% in the CWS population (Aarons et al., 2001).

The traditional definition of successful reunification is permanency – that is, children do not re-enter the foster care system. The 2008 US Department of Health and Human Services report noted that states were in alignment with federal recommendations that gave priority to permanency plans, either reunification or adoption (US DHHS, 2008), and that about half (53%) of all children who leave foster care do so because they are reunified with their families of origin. Broadly, reunification rates range from 50% to 75%, and estimates of re-entry into the foster care system range from 20% to 40% (Fraser et al., 1996).

In addition to reunification failures, there are other negative outcomes associated with reunification. For example, one prospective study compared children who had been reunified to children who had remained in long-term foster care (Taussig, Clyman, & Landsverk, 2001). The children were 7-12 years old upon entry into the CWS system, and six years later, those children who had been reunified were at greater risk for a number of negative outcomes, including self-destructive behavior, substance use, dropping out of school, and having lower grades. Lau, Litrownik, Newton, and Landsverk (2003) conducted a study of more than 200 children reunited after long-term foster care (average of 16 months in care) and followed them for 2 years post-reunification. They found that after reunification, children endorsed less social isolation, but as families experienced more stressful life events, internalizing problems increased. Similar findings were reported by Bellamy (2008) who used a subset from a large national database. The above studies indicate that not re-entering the foster care system

does not necessarily indicate a successful reunification. Thus, it is clearly important to understand what factors might predict improved family functioning once reunification occurs.

The National Family Preservation Network (2003) suggested a three-stage process for completing the family reunification process that includes not just preparing the family for reunification, but also providing intensive services post-reunification, and then tapering off services as the family readjusts. These post-reunification services should be initiated after reunification and should be designed to help support the family's maintenance of reunification (Freundlich & Wright, 2003). However, even when services are available, post-reunification families rarely access them (Rooney, 1992). Many scientists have called for an increased awareness of the family stress associated with reunification and note the lack of research on family functioning after reunification (e.g., Bellamy, 2008; Lau et al., 2003; Taussig et al., 2001).

Despite these recommendations, there appears to be a lack of adequate funding for post-reunification services, and far fewer child welfare prevention and intervention strategies and programs have been targeted to the post-reunification time frame (Wulczyn, 2004). While in foster care, children receive substantial services. As an example, rates of up to 70% of CWS children receive mental health services while in care (Burns et al., 1995; Halfon et al., 1992; Serketich & Dumas, 1996; Takayama, Bergman, & Connell, 1994). However, multiple barriers (e.g., fewer mandated and/or available services; Barth & Miller, 2000) reduce the likelihood of service use by parents and children after reunification, even though this is almost certainly a high stress time for the family. Fewer available services likely translates to reduced parental engagement. Few

available programs, the lack of funding, and low engagement all impede the further study of this population.

Gap in the literature. In summary, child maltreatment is a costly social problem with high risk of negative outcomes across the developmental lifespan. Children placed in out-of-home care are at greater risk than the general CWS population for negative outcomes. Reunification, often the initial goal after children are removed, is a stressful time for families, and re-entry into the foster care system is a common outcome. As the deleterious effects of child abuse are significant, it is critical to understand how these families function, and how best to intervene to prevent further negative outcomes.

As mentioned, there is far more research conducted on children while they are in the foster care system, relative to studies of children and families post-reunification. One difficulty with studying this population is the well-documented phenomenon that CWS parents are far less likely to remain engaged in services after reunification (Hess & Folaron, 1991) thus it is difficult to retain samples large enough to conduct multivariate analyses in studies of post-reunification family functioning and/or parenting interventions. Additionally, almost all post-reunification studies focus exclusively on re-entry as a dependent variable (i.e., predictors of re-entry and/or reunification failures), as opposed to other variables such as family functioning (e.g., changes in parent-child interactions; Dorsey, Mustillo, Farmer, & Elbogen, 2008).

There is a lack of knowledge about family functioning once children are reunified with their parents. There are very few published studies that report in detail the post-reunification experiences of parents and children, and even fewer of those studies are based on investigations of complex interactions between factors. There is little to no

follow-up with families, once reunification is complete, regarding the utility or continued implementation of pre-unification skills and services. The lack of research on post-reunification family dynamics is particularly troubling when considering that reunification is a stressful and vulnerable time for both children and their biological parents (e.g., Lau et al., 2003).

The proposed study will begin to address this gap in the literature by examining short- and long-term effects of reunification on family functioning in a sample of families reunited after foster care. The study examines parent contributions to family functioning, and takes into account contextual factors which likely influence the effect of these contributions (e.g., parental substance use, social support).

Child Maltreatment and Family Functioning

The following section reviews, through a child maltreatment lens, contributions to family functioning from parents, from children, and from parent-child interactions. For each of these areas, both risk and protective factors are discussed.

       Parental contributions to family functioning.

       Risk factors associated with child maltreatment. There is a strong body of work that details parental characteristics as risk factors of child maltreatment. These include parents who have a history of experiencing maltreatment, history of substance abuse, and specific to mothers, lower levels of education, younger maternal age, and higher levels of depression (Brown, Cohen, Johnson, & Salzinger, 1998; Chaffin, Kelleher, & Hollenberg, 1996; Ertem, Leventhal, & Dobbs, 2000; Kotch et al., 1995; Kotch, Browne, Dufort, Winsor, & Catellier, 1999; Pears & Capaldi, 2001; Sidebotham & Heron, 2006). Parenting attitude risk factors include endorsement of corporal punishment and negative

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thoughts or feelings about one's own children (Brayden, Altemeier, Tucker, Dietrich, & Vietze, 1992; Scannapieco & Connell-Carrick, 2005; Stith et al., 2009).

From a socio-ecological perspective, life stress is also a strong predictor of child maltreatment, including a number of stressful life events (SLEs), as well as economic, chronic, and daily stress (Chan, 1994; Hamilton, Stiles, Melowsky, & Beal, 1987; Kotch et al., 1999; Whipple & Webster-Stratton, 1991; Stith et al., 2009). Additionally, there is a long history of associations between socioeconomic status (SES) and/or poverty, and child maltreatment (Brown et al., 1998; Coulton, Korbin, & Sou, 1999; Garbanno & Kostelny, 1992; Kotch et al., 1995; Merritt, 2009).

By definition, parents are involved with the CWS because of parenting deficits, as evidenced by children's experiences of neglect or abuse. In general, there is evidence that a lack of parenting skills is a strong risk factor for committing abuse and/or neglect (e.g., Reid, 1986). In both clinical samples and those drawn from larger population-bases studies, poor parenting is tied to subsequent negative outcomes such as substance abuse and behavior disorders – outcomes for which children in the CWS are at greater risk (Patterson et al., 1992; Reid, Patterson, & Snyder, 2002).

There are specific parenting behaviors that are predictive of CWS involvement. These include using more coercive parenting practices (Bousha & Twentyman, 1984), having stronger negative reactions to family members (Burgess & Conger, 1978; Lahey, Conger, Atkeson, & Treiber, 1984), higher levels of anger arousal and reactivity (Hien, Cohen, Caldeira, Flom, & Wasserman, 2010), and praising children less when they perform desired behaviors (Schindler & Arkowitz, 1986). Hansen, Pallota, Tishelman, Conaway, and MacMillan (1989) found that parents with substantiated claims of physical

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abuse or neglect were less adept at problem solving than parents without a history of abuse or physical neglect. Additionally, abusive parents are more likely to use ineffective and/or inconsistent disciplinary practices (Elmer & Gregg, 1967; Reid, Patterson, & Loeber, 1982; Reid, Taplin, & Loeber, 1981). Reid and colleagues (1981) found that abusive families were more likely to use a range of aversive behaviors (e.g., physical confrontation, humiliation, etc.) than non-abusive families. Abusive parents are more likely to perceive neutral or positive cues from their children as negative, and may be more likely to maintain negative interaction cycles (Lorber, Felton, & Reid, 1984).

Examining risk factors for specific types of abuse reveals that there may be some differentially predictive variables. For example, Stith and colleagues (2006) conducted a meta-analysis of 155 studies in which 39 different risk factors were examined. Physical abuse risk factors included parent hyper-reactivity, family conflict, and lack of family cohesion. Child neglect, on the other hand, was best predicted by measures of the parent-child relationship, parent stress levels, and parent self-esteem. Although parent characteristics may have the strongest relationship to neglect, lack of socioeconomic resources is the most consistently documented risk factor for neglect (Schumacher, Smith, Slep, & Heyman, 2001). Regarding CSA, Whitaker and colleagues (2008) found that children of mothers with alcoholism were at greater risk of experiencing CSA perpetrated by a non-family member (as cited in Fleming et al., 1997).

The multiple types of maltreatment and risk factors present a complicated picture. One way researchers have proposed to better understand this complicated presentation is by using cumulative risk models based on a socio-ecological perspective. For example, MacKenzie, Kotch, and Lee (2011) used a sample of 842 mother-child dyads to compare

the predictive validity of individual risk factors versus a cumulative risk model. They found that no single variable provided a better prediction of subsequent maltreatment report than the cumulative index they created. They argue that moving away from single-factor causal models would enhance both prevention and intervention efforts. A socio-ecological perspective would include contextual variables such as social support, individual variables such as mental health, and transactional variables such as parent-child interactions.

Parenting stress. There are inconsistent findings regarding the parental role and its effect on psychosocial well-being. The majority of reviews on the effect that parental status has on well-being tend to be written from a vulnerability perspective – that is, parents have lower well-being than non-parents (McLanahan & Adams, 1987; Ross, Mirowsky, & Goldsteen, 1990; Umberson & Williams, 1999). These reviews primarily draw the conclusion that the parental role carries with it greater costs than rewards, despite the acknowledgement that empirical studies often report a more nuanced picture of parenthood.

In the empirical literature, there are mixed findings that include studies that show parents are less satisfied and more distressed than non-parents (Barnett & Baruch, 1985; Glenn & McLanahan, 1982; Ross & Van Willigen, 1996), studies that show that in certain circumstances, parents have higher psychosocial well-being than non-parents (Kandel, Davis, & Raceis, 1985; Ross & Huber, 1985), and other studies that report no effects of the parental role (Baruch, Barnett, & Rivers, 1983; Cleary & Mechanic, 1983; Gore & Mangione, 1983; Wethington & Kessler, 1989). Generally, empirical studies present a more complicated picture that suggests that contextual factors interact with the

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parenting role to produce more or less distress (Barnett & Baruch, 1985; Bird, 1997; Gore & Mangione, 1983; Kandel et al., 1985; Wethington & Kessler, 1989).

For example, Nomaguchi and Milkie (2003) conducted a longitudinal study using a nationally representative sample of almost 2,000 first-time parents, and found that there were both benefits and drawbacks to becoming a parent. They found that social integration was higher on average for parents versus non-parents, but that other markers of psychosocial well-being were more varied. Single parents reported reduced self-efficacy and higher levels of depression than non-parents, whereas married mothers reported more housework and marital conflict than married female non-parents. Notably, for married men, there appeared to be no effect of parental status on the measured variables. Other examples of these contextual factors include role overload, problems arranging child care, and economic stress (Bird, 1997; Ross & Huber, 1985; Ross & Mirowsky, 1988), as well as social support and coping skills (Bird, 1997; Thompson, 1986).

In a recent review that proposed a model for understanding the relationship between parenthood and well-being, Nelson, Kushlev, and Lyubomirsky (2014) described both positive and negative influences on parental well-being. They suggested conceptualizing factors as either mostly positive (e.g., enhanced social roles, more positive emotion, and sense of life purpose) or mostly negative (e.g., sleep disturbances, financial pressures, negative emotions and relationship struggles), and proposed that parental well-being (or lack thereof) is the result of interactions between these factors. For example, Umberson (1989) reported that the relational quality of the parent-child relationship was a stronger predictor of parental psychological well-being than the

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demands of parenting. Better understanding how parents function in the stressful time after reunification may lead to more effective interventions for this population.

Parent mental health. Research also has been conducted on the effects that parental psychological well-being has on the quality of parenting, with the vast majority of research being conducted with women. Mothers with mental health problems have been described as poor parents who demonstrate a lack of effective parent-child interactions (Downey & Coyne, 1990; Somers, 2007), and who are more withdrawn and emotionally uninvolved than their non-diagnosed counterparts (e.g., Goodman & Brumley, 1990). Children living with a parent who has a mental illness are three times as likely to struggle with good mental health as children are who are not in that living situation (Gammon, 1983; Mowbray, Bybee, Oyerman, MacFarlane, & Bowersox, 2006; Warner, Weissman, Fendrich, Wickramaratne, & Moreau, 1992; Weismann et al., 1984). More than 60% of young children with a depressed parent developed a psychiatric disorder by the time they were adolescents, and of those children, a large percentage had co-morbid substance abuse and/or affective disorders (Beardslee, Versage, & Gladstone, 1998). Additional common co-morbid disorders in children of depressed parents include conduct disorder, attention deficit disorder, depression, and oppositional defiant disorder (Weissman, Paykel, & Klerman, 1972; Weissman et al., 1984; Welner & Rice, 1988).

There is strong evidence for a genetic component to the transmission of psychological problems from parents to children (e.g., O'Connor, McGuire, Reiss, Hetherington, & Plomin, 1998; Pike & Plomin, 1996; Puig-Antich et al., 1989; Thapar & McGuffin, 1996; Weissman, Leckman, Merikangas, Gammon, & Prusoff, 1984; Weissman, Warner, Wichramaratne, & Prusoff 1988). However, there also is support for

a gene-by-environment interaction (Downey & Coyne, 1990; Pike & Plomin, 1996; Thapar & McGuffin, 1996). For example, Downey and Coyne (1990) suggest that coercive parenting by depressed mothers may increase the probability of children developing conduct disorder. Another potential mechanism for the development of child problems may be attachment-based, in that depressed mothers (for example) may be less sensitive to the needs of their children, thus promoting an insecure or disorganized attachment style that may then lead to increased child behavior problems and affect normative child development (Greig & Howe, 2001; Holden, 2003; Lyons-Ruth, Zoll, Connell, & Grunebaum, 1986).

Depressed mothers have deficits across a range of parenting skills and tasks, such as positive interactions with their children (e.g., reading, talking, and playing with their children), being sensitive to their children's wants and needs, and providing consistent care (Goodman & Brumley, 1990; Gordon et al., 1989; Lyons-Ruth, Wolfe, & Lyubchik, 2000). The children of depressed mothers, as compared to those of non-depressed mothers, are slower to attain developmental milestones, are fussier, with more difficult temperaments, and show decreased academic performance and social skills (Goodman & Gotlib, 1999; Luoma et al., 2001). These findings have held across a range of potential moderators, including socioeconomic status and intellectual abilities (Goodman & Brumley, 1990).

The importance of developing a better understanding of parental well-being is clear. There is strong evidence that parental well-being has an effect on parents' ability to provide adequate care for their children, with subsequent effects on social, developmental and psychological outcomes in children (e.g., Downey & Coyne, 1990; Goodman &

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Brumley, 1990; Goodman & Gotlib, 1999; Kurstjens & Wolke, 2001; Luoma et al., 2001; Mash, Johnston, & Kovitz; 1983; Somers, 2007). Parenting stress, parental mental illness and low parental self-efficacy are associated with an increased risk of child maltreatment (Black, Heyman, & Smith Slep, 2001; Curenton, McWey, & Bolen, 2009; El-Kamary et al., 2004; Éthier, Lacharité, & Couture, 1995; Haskett, Smith Scott, Grant, Ward, & Robinson, 2003; Rodriguez, 2010; Zuravin, 1988). There are associations between parenting stress and parenting styles that are more likely to produce negative effects in children, such as reduced parental warmth (Belsky, 1984; Rodgers, 1993), harsh parenting and severe corporal punishment (Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Webster-Stratton, 1990), and coercive parenting (Bigras, LaFreniere, & Dumas, 1996). High levels of parenting stress increase the probability that children will experience punitive parenting, which also increases the risk of child maltreatment (Pinderhughes et al., 2000; Webster-Stratton, 1990).

Generally, one of the most common grounds for the legal termination of parental mental rights is poor parenting as the result of mental illness (Sackett, 1991). Deficits in emotion regulation, particularly in the areas of anger arousal and reactivity, have been linked to higher child abuse potential (Hien, Cohen, & Campbell, 2005). Additionally, parental antisocial behavior, affective disorders, and depression increase the probability that children removed by CPS will be placed in out-of-home care (e.g., Famularo, Barnum, Stone, & Wharton, 1986; Weissman & Paykel, 1974). More recently, parenting stress and psychological distress have been investigated as dual phenomena, and there is evidence that these two variables interact with each other to increase risk. For example, McPherson, Lewis, Lynn, Haskett, and Behrend (2009) reported that maltreating mothers

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had higher levels of both psychological distress and parenting stress as compared to non-maltreating mothers, and that psychological distress predicted parenting stress only for the maltreatment group.

Despite the above evidence regarding risk factors, and the findings that indicate parenting can be an extremely stressful role (e.g., Abidin, 1992; Deater-Deckard, 2004), parenting itself is not generally considered a mental health issue (Ackerson, 2003). Parents with serious mental illnesses typically are not assessed for parenting skills unless and until their children are seen to be at risk for removal by CWS (Blanch, Nicholson, & Purcell, 1994). Additionally, research on the effects that the parenting role might have on parent psychological well-being are mixed, and there appear to be no published studies on this phenomenon in families reunified after foster care (arguably one of the most stressful times for families).

Substance use. In those states that report parental substance abuse data with child abuse data, 33% to 66% of all child abuse cases have comorbid parental substance use (US DHHS, 2012b). It is postulated that substance abuse interferes with key adaptive parenting processes, thereby increasing the risk for child welfare involvement (L. Saldaña, personal communication, 2013). Parental substance use also increases the chance that children will be removed from the home and placed in foster care after a substantiated CWS report (US DHHS, 1993). Additionally, Wekerle (2007) found that parental substance abuse was the risk factor with the strongest predictive ability in determining substantiation of maltreatment. Within the CWS population, there are also differences between substance abusing and non-substance-abusing parents. Parental substance abuse is linked to higher rates of multiple problems, children entering foster

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care at a younger average age, and children staying in care longer (National Committee to Prevent Child Abuse, 1996; Wekerle, 2007). Generally, drug and alcohol abuse are risk factors for initial CWS involvement and re-entry into the foster care system following reunification (e.g., Beckman & Amaro, 1986; Festinger, 1996; Frame, Berrick, & Brodowski, 2000; Goerge, 1990; Marsh & Miller, 1985; Terling, 1999).

There are numerous studies in which the negative effects of parental substance abuse on children have been documented. These include developmental problems across a range of areas, including infant behavioral and cognitive development as well as in utero neurological development (Bendersky & Lewis, 1999; Brook, Zheng, Whiteman, & Brook, 2001; Carmichael, Olson, O'Connor, & Fitzgerald, 2001; Johnson, Vicary, Heist, & Corneal, 2001). The children of parents with substance abuse problems have a higher likelihood of developmental delays in a number of different functions, including both cognitive and language delays (Fox, Sexton, & Hebel, 1990; Fried, 1989; Olds, Henderson, & Tatelbaum, 1994; Richardson, Day, & Goldschmidt, 1995). There are also reported increases in externalizing behaviors (as compared to children with non-substance abusing parents (Fergusson, Woodward, & Horwood, 1998; McGee & Stanton, 1994; Merikangas et al., 1998; Milberger, Biederman, Faraone, Chen, & Jones, 1996; Orlebeke, Knol, & Verhulst, 1997; Rutter et al., 1990; Wakschlag et al., 1997) and decreases in general executive function (Connor, Sampson, Bookstein, Barr, & Streissguth, 2000; Kodituwakku, Handmaker, Cutler, Weathersby, & Handmaker, 1995; Mattson, Goodman, Caine, Delis, & Riley, 1999).

More recent work has attempted to better specify risk and resilience factors associated with substance abuse in CWS samples. For example, Brook and McDonald

(2009) examined the effects of drug and alcohol use on reunification stability. They found that the highest re-entry rates were associated with parents referred for both drug and alcohol abuse, followed by parents referred for either drug or alcohol abuse. These two groups were at greater risk of re-entry than the group with no drug or alcohol involvement. There is evidence that multiple problems (e.g., substance abuse, mental health, housing, etc.) are the norm rather than the exception (Marsh, Ryan, Choi & Testa, 2006; Porowski, Burgdorf, & Herrell, 2004; Stromwall et al., 2008).

Additionally, substance abuse also affects parents' ability to access services related to successful completion of child welfare reunification plans. The vast majority of mothers do not receive the services they need to complete reunification plans (Choi & Ryan, 2007; Marsh et al., 2006; Smith & Marsh, 2002). Utilization of ancillary services can contribute to the successful completion of substance abuse treatment and subsequent reunification. For example, a sample of mothers in substance abuse treatment identified their need for legal, housing, medical, and vocational services (Smith & Marsh, 2002). Despite the fact that self-identified needs typically went unmet, there was a positive association between number of services utilized and reduced substance use. In a later study with a large sample of substance-abusing child welfare-involved mothers, increased utilization of social services, including substance abuse treatment, housing, transportation, and legal services, was associated with increased rates of reunification (Choi & Ryan, 2007), most likely because service use was associated with completion of treatment plans aimed at reunification.

Typically mothers are referred to service-providing agencies to address these ancillary needs; however, referrals occur in an inconsistent manner with a lack of

integration across services and systems (e.g., Choi & Ryan, 2007; Saldaña, 2015). This is unfortunate as there is evidence that access to ancillary services contributes to the success of reunification as well as reductions in substance use (Saldaña, 2015). For example, Marsh and Cao (2005) found that the mothers who received comprehensive services accessed more services overall, and had lower rates of substance use. Additionally, when services are matched to address both economic (e.g., employment) and basic (e.g., food) needs, there are decreases in the risk for additional child maltreatment referrals (Ryan & Schuerman, 2004).

Most studies of the effects of substance use treatment within a CWS context do so from the historically more traditional sequence of events that requires that parents complete substance abuse treatment first and are then reunified with their children. From this perspective, certain factors within the treatment process predict better outcomes. For example, Green and colleagues (2007) conducted a longitudinal study of more than 1900 women who had children in out-of home care. They noted that women who enter treatment more quickly after children are removed from the home, spend more time in treatment, and/or complete at least one treatment sequence were more likely to be reunified with their children. This is consistent with general findings that treatment completion is one of the most important factors that judges consider when making decisions about reunification (Karoll & Poertner, 2002). However, treatment completion before reunification has not consistently been found to reduce rates of re-entry. For example, Rittner and Dozier (2000) found no relationship between treatment compliance and reunification failure.

The deficits in the child welfare system regarding service provision to families with substance abuse histories are well recognized by policy makers, caseworkers, and health professionals. "National policy should strengthen families and provide support for intensive services to prevent the unnecessary removal of children from the home and promote the reunification of families if removal has taken place" in part by integrating substance abuse and child welfare services (Child Abuse Prevention and Treatment Act, 42 USC § 5101, 2010). Marsh, Smith, and Bruni (2011), in a comprehensive review of the integration of child welfare and substance abuse services for women, note that at least one difficulty associated with integrating substance abuse treatment and CWS services is that they have differing goals and philosophies (e.g., rehabilitation and parental self-help [substance use] versus regulation and child protection [CWS]).

Donohue, Romero, and Hill (2005) reported that more than half of parents with substantiated cases of abuse and/or neglect also show evidence of drug abuse, yet there are no widely available treatments that concurrently address difficulties with parenting and substance abuse (although there are a growing number of concurrent interventions under study). They argue that there is a reciprocal interaction between substance abuse and child maltreatment, and that these problems should be treated together. These arguments are echoed by Marsh and colleagues (2011) who reported that although there have been improvements in system integration, there remain significant deficits in the provision of evidence-based treatments. Research investigating the interplay between substance abuse and parenting deficits is critical to address the needs of this highly vulnerable population.

Parental substance abuse also is linked to a number of different parenting difficulties, including the decreased ability to respond to children's social cues, the higher likelihood of punitive parenting practices, and using more severe disciplinary responses when children do not comply (e.g., Blackwell, Kirkhart, Schmitt, & Kaiser, 1998; Hien & Honeyman, 2000). Problems with substance abuse also can affect parents' sensitivity to children's cues and parental responsiveness (Mayes & Truman, 2002). The ability to identify relationships between parent substance abuse treatment and subsequent parent well-being, while parents are under the stress of reunifying with their children, may provide insight into the complex relationships between these constructs. As noted above, substance abuse treatment is often a prerequisite to reunification, and most research is focused on pre-unification outcomes. There is a paucity of research on the effects of continuing substance abuse treatment after parents and children reunify. The current study will add to the extant literature by investigating the effects of ongoing substance abuse treatment on parent well-being in a post-reunification sample.

Partner violence. There is considerable evidence that partner violence is associated with higher risk of CWS referrals and out-of-home placements (e.g., Farmer & Owen, 1995; Kellog & Menard, 2003; McGee, 2000; Osofsky, 2003; Zuravian & DePanfilis, 1997). In an epidemiological study conducted in 2004 on a national dataset, for female caregivers of children reported for child maltreatment, lifetime prevalence of partner violence was 44%, and past year incidence was 29% (Hazen, Connelly, Kelleher, Landsverk, & Barth, 2004). Taylor, Guterman, Lee, and Rathouz (2009) used a sample of more than 2500 families, and identified roughly the same percentage (40%) endorsed experiencing intimate partner violence (IPV) in the past year. Wekerle (2007) found that

the presence of IPV in the home increased the strength of the positive association between caregiver vulnerabilities (e.g., substance abuse) and substantiation of CWS referrals. Last, although less studied, partner psychological abuse also has been associated with a greater risk for child maltreatment, specifically, child psychological abuse, child physical abuse, and neglect (Chang, Theodore, Martin, & Runyan, 2008).

The effects of IPV on children have been extensively studied. There is evidence that growing up in a home where IPV occurs has a hazardous and critical effect on children's health and development, (Marsh, 2002; Martin, 2002). Negative effects often persist into adulthood, increasing the likelihood that IPV will be transmitted intergenerationally (Cunningham & Baker, 2004; Levendosky & Graham-Bermann, 1998). From a developmental perspective, IPV exposure likely has differential effects based on the age and developmental stage of the child, with early and persistent exposure generally having poorer long-term outcomes (Cunningham & Baker, 2004).

Children aged 0 – 4 who live in homes where IPV occurred may indicate distress with increased irritability, maladaptive attachment styles, toiletry difficulties, and sleep problems (e.g., Lundy & Grossman, 2005; Osofsky, 1999). In studies with preschoolers (3 – 5 year old children), compared to children who have not witnessed IPV, children who have witnessed IPV have more PTSD symptoms, more problems in both the behavioral (e.g., temper tantrums) and social (e.g., developing empathy) realms, and lower self-esteem (Huth-Bocks et al., 2001; Rossman, 1998). Cunningham and Baker (2004) hypothesize that the egocentricity and limited verbal expression typical of this age group may be causing these children to express strong emotions in other ways, such as aggression, crying, detachment, and anxiety.

For children 6 – 12 years of age who have witnessed IPV, a larger academic and social world becomes the focus for negative effects. These children have a higher risk of both committing acts of bullying and being the victim of such acts (Bauer et al., 2006; Cunningham & Baker, 2004), likely due to the impaired ability to accurately read social cues. In a sample of more than 4600 children who had witnessed IPV, roughly 33% were described by teachers as frequently aggressive (Lundy & Grossman, 2005), and about 20% had reported problems with compliance (e.g., following school rules).

Other problems common to children in this age group are difficulty making and keeping friends, sadness, depression, inappropriate guilt (e.g., believing the abuse occurs because of the child), shame, and academic problems including lack of advancement and higher absenteeism (Alexander, Macdonald, & Paton, 2005; Lundy & Grossman, 2005; Moore & Pepler, 1998). However, as Holt, Buckley, and Whelan (2008) note, for some children, school is seen as a refuge from a chaotic and emotionally turbulent home life, and thus some children spend more time at school. One long-term effect that may begin to develop at this age is the creation of inaccurate or inappropriate beliefs about IPV (i.e., attempts to justify the abuser's behavior by blaming the victim), that may put these children at greater risk of being involved in IPV as adults (Cunningham & Baker, 2004).

The effects on 13-18-year-old witnesses of IPV begin to reflect the transition from childhood into adulthood. In addition to the lingering effects of the outcomes reviewed above, adolescents who witness IPV are less likely to trust their intimate relationships and have more problems developing healthy relationships with their peers (Levendosky, Huth-Bocks, & Semel, 2002). Exposure to IPV has been found to be a strong predictor of male adolescents exhibiting abusive behavior and to predict both male and female

relational victimization (Levendosky et al., 2002; Wekerle & Wolfe, 1999). IPV exposure also may lead adolescents to have less confidence in their own abilities to control violent impulses (Goldblatt, 2003).

Older children may attempt to cope with the experience of witnessing IPV by disengaging (either emotionally or mentally "tuning out"), by staying away from home as much as possible, or using alcohol or other drugs (Cunningham & Baker, 2004; Mullender et al., 2002). These children also may attempt to prevent further acts of IPV, or to intervene during an episode, thus placing them at greater risk of experiencing violence themselves (Hester, Pearson, & Harwin, 2000). They also may display anger towards both parents (for the abuser's act of violence and/or the victim's failure to respond appropriately; Holt et al., 2008), or take on additional caretaking duties for either the victim or their siblings, that can lead to over-parentification (Goldblatt, 2003).

In addition to the effects on children as witnesses of IPV, there is considerable evidence that IPV also affects parents' ability to provide adequate care for their children, as compared to parents in non-violent households (Buchbinder, 2004; Levendosky & Graham-Bermann, 2001; McIntosh, 2002; Mullender et al., 2002). Taylor and colleagues (2009) used data from a large sample (>2500) of at-risk families, and found that mothers who experienced at least one instance of IPV were at greater risk of maltreating their children even after controlling for parental stress and depression. These mothers reported that they committed an average of 25 psychologically aggressive acts and 17 physically aggressive acts against their 3-year old children in the prior year. There are also effects on parents' relationships with their children (e.g., Mullender et al., 2002), parenting

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capacity (Stephens, 1999), and attachment quality (Cleaver, Unell, & Aldgate, 1999; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003).

Some suggest that maternal stress and depression (which have strong correlates with IPV; e.g., Stanley & Penhale, 1999) may create a home atmosphere in which mothers are more likely to be unavailable. One review estimated that 33% to 66% of women who experienced IPV have symptoms consistent with PTSD, depression and/or anxiety, and also suffer from low self-esteem (Holtzworth-Munroe, Smutzler, & Sandin, 1997), all of which can affect one's ability to provide adequate parenting. Levendosky and Graham-Bermann (1998) hypothesized that the effects of these symptoms may both compound any child behavior problems, and increase the salience of in-home violence to the child.

There is also evidence that IPV has a negative effect on mothers' ability to create an atmosphere of trust and authority, and can even increase the likelihood that adolescents will be physically aggressive toward their parents (Jackson, 2003; McCloskey & Lichter, 2003; Ulman & Straus, 2003). Parent-directed aggression not only affects the parent-child relationship, but also increases the risk of children displaying subsequent anti-social behaviors (Levendosky, Lynch, & Graham-Bermann, 2000). Some theorists hypothesize that mothers may blame children for having characteristics similar to the perpetrator's, and thus ascribe adult motivations to the child's behaviors (Stephens, 1999), or identify the child as her "bad self," and thus not protect the child from experiencing abuse (Kantor & Little, 2003).

Domestic-violence related 'failure to protect' laws have been passed based on the knowledge that the presence of IPV in the home increases risk of negative outcomes for

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the child, and decreases the probability of providing good-enough parenting (Schechter & Edleson, 1999; Shepard & Raschick, 1999). However, failure to protect laws are almost exclusively applied to women for failing to leave a relationship characterized by IPV and/or not protecting the child from a perpetrator (Farmer & Owen, 1995; Strega et al., 2008). In several studies which reviewed CPS files, there were no instances of fathers being charged with failure to protect children from abusive mothers (Davidson, 1995, as cited in Kopels & Sheridan, 2002; Fugate, 2001; Lothian, 2002).

Although CPS workers may see abusive fathers or father-figures as a threat to the health and safety of the child, these workers see mothers as the parent responsible for keeping the child safe, and focus attention on mothers' perceived neglect rather than fathers' physical violence (Bancroft & Silverman, 2002; Dominelli, Strega, Callahan, & Rutman, 2005; Magen, 1999; Salcido Carter, Weithorn, & Behrman, 1999; Strega, 2006). Mothers are seen to be at fault when fathers physically assault children (Radhakrishna, Bou-Saada, Hunter, Catellier, & Kotch, 2001), and the focus of the CWS remains on mothers' parenting ability and availability while ignoring the assailants (Munro, 1998; Stanley, 1997; Sullivan, Nguyen, Bybee, Juras, & Allen, 2000).

Additionally, there is evidence that men simply remain outside the gaze of social workers both in terms of assessing the risk of men who commit violent acts as well as failing to engage with fathers who may provide parenting and support (O'Hagan, 1997; Trotter, 1997). Kantor and Little (2003) argue that attribution error may be the reason failure to protect is defined by lack of women's behavior rather than the presence of men's behavior, and that this may be driven by the underlying perception that women are always the primary parents. Others raise the question of why victims attract more blame

and anger than perpetrators (e.g., Bell, 2003). Finally, there is some evidence that women

work hard to protect their children from abuse, and in fact may rely on harsher and/or

more authoritarian parenting practices to ensure children are well-behaved (and thus less

likely to attract the abuser's attention; Margolin, Gordis, Medina, & Oliver, 2003;

Mullender et al., 2002).

The above complicated picture points to the continued need for research into the

effects of IPV on parenting skills. There is recent evidence that CPS investigations may

lead to the receipt of services for women who are the victims of IPV (e.g., Kohl, Barth,

Hazen & Landsverk, 2005), but rarely are these services integrated into a single service

package for CWS families (McKay, 1994; Schechter & Edleson, 1999). Additionally, it is

unknown whether protective factors such as social support might buffer the risk

associated with a history of IPV during the reunification process.

Protective factors associated with child maltreatment. Although efforts have

been made to identify protective factors, these factors have not been studied as

extensively as risk factors (Li, Godinet, & Arnsberger, 2011). One group of researchers

recently published a report on the psychometric properties of a self-report measure

designed to assess protective factors in families at risk (Counts, Buffington, Chang-Rios,

Rasmussen, & Preacher, 2010). Completed by almost 1,000 participants receiving

services from 19 agencies across the United States, the Protective Factor Survey (PFS)

yielded four factors associated with decreased risk of maltreatment: family functioning,

emotional support, concrete support, and nurturing and attachment.

Regarding specific protective factors, family structure factors include two-parent

households and fewer children (Berger, 2004; McGuigan & Pratt, 2001; Rumm,

Cummings, Krauss, Bell, & Rivara, 2000; Sidebotham & Heron, 2006). Parent variables

included increased level of education (Li et al., 2011), resilience, identifiable knowledge

about parenting and normal child development (Family Support Network, 2002; Shaw &

Kilburn, 2009), and breastfeeding (Strathearn, Mamun, Najman, & O'Callaghan, 2009).

Three factors which have received considerable interest, in part because they are

considered highly amenable to intervention programs, are social support, parental self-

efficacy and parent training.

   Social support. Broadly, social support is one of the most-heavily investigated

protective factors associated with buffering the negative effects of life events. Early work

on the influence of social support began with defining the concept, that according to

Gottlieb (1983) can be thought of as "verbal and non-verbal information or advice,

tangible aid, or action that is proffered by social intimates or inferred by their presence

and has beneficial emotional or behavioral effects on the recipients" (p. 28). Further

refinement of the term included a conceptual distinction between different types of social

support (Antonucci & Jackson, 1990; Gottlieb, 1983; Heller, Price, & Hogg, 1990;

Pearlin, Lieberman, Menaghan, & Mullan, 1981), that include instrumental (e.g., tangible

assistance, providing information), and emotional (positive social interaction, affection,

and esteem) social support (e.g., Cutrona & Suhr, 1992; Sherbourne & Stewart, 1991;

Yu, Lee, & Woo, 2004).

   In addition to operationalizing the term, it also is helpful to understand the

processes by which it is thought social support has benefit. Many scientists have

proposed that social support must be transactional and viewed contextually, which is to

say that there are interactions between life stressors, individual characteristics (e.g.,

personality), and support provided that predict how social support will influence a given outcome (e.g., Antonucci & Jackson, 1990; Bott, 1971; Lepore, 1997). Additionally, an important contribution to the social support literature is the conceptualization of social support as a stress mediator (sometimes referred to as coping resources, e.g., Lazarus & Folkman, 1984). Broadly, stress mediators function to mediate the relationship between a life stressor and a specific outcome (Armstrong, Birnie-Lefcovitch, & Ungar, 2005). The presence of stress mediators can increase resilience to adverse effects of negative life events (Armstrong et al., 2005), whereas the absence of such mediators may increase individual vulnerability to negative outcomes associated with life stressors (Beresford, 1994).

The lack of social support (sometimes called social isolation) has associations with poorer outcomes for both parents and children (e.g., Hutchings, Midence, & Nash, 1997; Kazdin, 1990; Wahler, 1980). For example, in a sample of women who were maltreated as children, a lack of social support as adults was linked to higher levels of both PTSD and depression symptoms (Vranceanu, Hobfoll, & Johnson, 2007). Lack of early social support has a direct relationship to adult perceptions of current social support, which is then predictive of the risk of child maltreatment (e.g., Crouch & Behl, 2001; Vranceanu et al., 2007). Broadly, the presence of social support has been linked to better psychological and physiological health outcomes across all stages of human development (see Taylor, 2011, for an excellent review of the benefits and limitations of social support).

There are both international and national policy documents that suggest that social support is necessary for both maternal and infant health and development (e.g.,

Commission on the Family 1998, World Health Organization). There is considerable

evidence to support this assertion. For example, early investigations into the association

between attachment quality and network quality showed a positive correlation in nearly

75% of the reviewed cases (Crittenden, 1985; Crockenberg, 1981). Researchers have also

reported positive associations between maternal social networks and maternal parenting

skills (e.g., warmth, responsiveness; Simons, Beaman, Conger, & Chao, 1993), and

social-ecological theorists hypothesize that social networks are instrumental in the

transmission of parenting skills (Bronfenbrenner, 1986; Cochran & Brassard, 1979). Both

larger social networks and maternal parenting networks can have independent effects on

parenting skills such as higher levels of praise and fewer child-directed commands

(Jennings, Stagg, & Conners, 1991). Additionally, social support may serve as a

protective factor against the development and maintenance of negative affect in parents

(Koeske & Koeske, 1990).

Researchers investigating the intersection of child maltreatment and social

support initially hypothesized that social isolation was a critical antecedent (e.g., Belsky,

1993; Cameron, 1990; Gottlieb, 1980; Tzeng, Jackson, & Karlson, 1992; Vondra, 1990),

but more recent work conceptualizes social isolation as either a byproduct or moderator

of child maltreatment (e.g., Coohey, 1996; Howze & Kotch, 1984; Seagull, 1987).

Conversely, adequate and appropriate social support may provide a stress-buffering effect

that reduces the impact of negative and/or stressful life events on the family, and thus

reduces the likelihood of child maltreatment (Armstrong, 2005; Cohen & Wills, 1985,

Coohey, 1996; Kotch et al., 1997; Kotch et al., 1999; Seagull, 1987). For example,

Cutrona and Troutman (1986) found that in women who had recently had a child, social

support functioned as a protective factor against the development of post-partum depression, primarily through increasing a sense of self-efficacy.

Li and colleagues (2011) found that families with a high level of social support were less likely to have a maltreatment report, and that for mothers who did not have high school degrees, strong social support reduced the risk of maltreatment reports by a factor of two. Child maltreatment prevention programs that contain a social support component have been shown to have higher effect sizes than programs without that component (see MacLeod & Nelson, 2000, for a meta-analysis of prevention program components). In fact, it may be that stress-buffering effects of social support are greatest with families experiencing high-stress conditions (e.g., Cobb, 1976; 1979) such as reunification following out-of-home care.

Lack of social support is both a risk factor for CPS reports (e.g., Li et al., 2011), and for failed reunification after children are returned home from out-of-home care (Kimberlin, Anthony, & Austin, 2009). As noted above, there also is evidence that a family history of IPV has a negative effect on parenting skills (e.g., Buchbinder, 2004; Levendosky & Graham-Bermann, 2001; McIntosh, 2002; Mullender et al., 2002). However, there appear to be no published studies that report investigations of specific parenting abilities or practices after reunification when there is a history of IPV in the family, nor do there appear to be any published studies to date that investigate the stress-buffering effect that social support may have on parenting skills in families with a history of IPV who are reunified with their children. The current study will add to the knowledge base by examining the effects that a history of IPV might have on the parenting skills of CWS-involved families after reunification from out-of-home care, as

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buffered by social support. A better understanding of how and when perceived social support mediates the stress of family reunification (i.e., earlier or later after reunification) may lead to the development of more timely and effective interventions or supportive programs for this vulnerable population.

Parental self-efficacy. Another aspect strongly associated with parental well-being and improved family functioning is parental self-efficacy – beliefs that parents hold about how capable they are to identify and perform the duties and skills associated with taking care of their children (Leahy-Warren, 2011). Researchers argue that adequate levels of parental self-efficacy are a critical component of supporting families (e.g., Bloomfield et al., 2005), and parental self-efficacy has been found to increase the likelihood of healthy parenting habits (Finlayson, Siefert, Ismail, & Sohn., 2007). Parental self-efficacy has been found to be a mediator between variables such as education and satisfaction, and relational conflict and social support (Coleman & Karraker, 2000; Erdwins, Buffardi, Casper, & O'Brien, 2001). Parental self-efficacy likely functions within a complex family system. For example, Weaver and colleagues (2008) found that parental self-efficacy mediated the effect that child behavior problems had on maternal anxiety and depression.

Regarding specific parenting behaviors, there are positive correlations between parental self-efficacy and a number of parenting constructs including parental warmth (Bohlin & Hagekull, 1987; Dumka, Stoerzinger, Jackson, & Roosa, 1996; Izzo, Weiss, Shanahan, & Rodriguez-Brown, 2000), positive parenting (Dumka et al., 1996; Gondoli & Silverberg, 1997; Hill & Bush, 2001), parental involvement across childhood development (Bogenschneider, Small, & Tsay, 1997; Eccles & Harold, 1996; Hoover-

Dempsey, Bassler, & Brissie, 1992; King & Elder, 1998; and Shumow & Lomax, 2002),

and monitoring (Bogenschneider; King & Elder; Shumow & Lomax).

Although there are fewer studies investigating links between parental self-efficacy

and parental well-being, it may function as a protective factor, reducing depressive

symptoms and stress levels, and increasing coping and satisfaction with the parental role

(Jones & Prinze, 2005). However, as the authors note, directionality is far from well-

established, and it may be that parental self-efficacy may be an outcome, a mediator, or a

transactional variable, dependent upon specific circumstance. For example, depression

may increase a sense of worthlessness and/or inappropriate guilt that may then generalize

to the parenting role (e.g., Cutrona & Troutman, 1986; Gondoli & Silverberg, 1997;

Gross, Fogg, Webster-Stratton, & Grady, 1999).

Parental self-efficacy also has associations with risk of child maltreatment. For

example, Mash, Johnston and Kovits (1983) found that mothers with substantiated cases

of abuse had lower parental self-efficacy than mothers who did not, although causality

was not established (i.e., it is unknown if being reported for abuse decreases parents'

sense of self-efficacy, or if it is low parental self-esteem that then decreases parental self-

efficacy, that then increases risk of abuse). There are also associations between low self-

efficacy and parenting styles associated with risk of child maltreatment (e.g., Day, Factor,

& Szkiba-Day, 1994).

There is evidence that increasing parental self-efficacy may reduce the probability

of child maltreatment, and that it is possible to increase parenting self-efficacy through

parenting interventions (Evans et al., 2003; Hoza et al., 2000; Miller-Heyl, McPhee, &

Fritz, 1998; Spoth, Redmond, Haggerty, & Ward, 1995). In a preventive intervention

study with at-risk parents that included increasing parental self-efficacy as a targeted outcome, parents in the experimental group showed increases in parental self-efficacy whereas the control group did not (Peterson, Tremblay, Ewigman, & Saldaña, 2003), and this effect held at one-year follow-up.

Jones and Prinze (2005), in a comprehensive review of parental self-efficacy, note that published data, and therefore evidence, is sparse for the associations between parental self-efficacy and child maltreatment. They suggest that low parental self-efficacy be seen as a risk factor for child maltreatment, and note that investigations of parenting have found common factors that contribute to both low parental self-efficacy and child maltreatment risk (e.g., depression, parental stress; perceived control; Bugental, Blue, & Cruzcosa, 1989, as cited in Jones & Prinze). As example, Day and colleagues (1994) studied a sample of clinic-referred families with children who had conduct problems. They found that parents with both low parental self-efficacy and harsh discipline parenting practices reported more child behavior problems and used more severe and aversive discipline. Investigating the effects that parent-child interactions have on parental self-efficacy, and the links that relationship may then have to parental well-being will help us better understand family functioning in this population.

Parent training. There is a strong body of evidence that parent training as either prevention or intervention can have positive short- and long-term effects on family functioning and well-being, including outcomes such as the prevention of substance abuse, disruptive behavior disorders, delinquency, and depression (e.g., Bank, Marlowe, Reid, Patterson, &Weinrott,1991; Baydar, Reid, & Webster-Stratton, 2003; Brestan & Eyberg, 1998; Eddy, Reid, & Fetrow, 2000; Forgatch & DeGarmo, 1999; Graziano &

Diament, 1992; Tremblay et al., 1992; Webster-Stratton & Taylor, 2001). In a comprehensive review of parenting programs used by the CWS, Barth and colleagues (2005) identified four general functions of parent training as it relates to child welfare. These are 1) improving parental performance in the home (as part of family preservation services; 2) helping parents improve performance to achieve reunification; 3) monitoring parents' commitment to the parenting role and to child safety and; 4) assessing parents' cooperation and engagement. The authors also identified four general components of parent training programs (and note that not all available programs contain all components, and conversely, some programs have broader reaching goals than parent training). These are: 1) assessment of parenting problems, 2) teaching new skills, 3) having parents apply the skills they have learned, and 4) receiving feedback about their use of skills.

Barth and colleagues (2008) also reported that of the many programs available for use in the CWS, only four met the highest standards of evidence-based practice and also had been implemented and/or tested with this population. Described as "clearly the leading evidence-based parent-training programs" were The Incredible Years (TIY; Webster-Stratton & Hammond, 1997), Multisystemic Therapy (MST; Henggeler et al., 2003), Oregon Social Learning Center's Parent Management Training (PMT; Forgatch & Martinez, 1999; Patterson, Chamberlain, & Reid, 1982), and Parent-Child Interaction Training (PCIT; Eyberg & Robinson, 1982). As described in their review paper, each of these four programs has an extensive body of supporting literature, including randomized trials and application across different subsets of the CWS population.

A close examination of these four programs reveals that all four programs share at least three common parent training principles: the use of positive reinforcement, appropriate discipline, and an emphasis on developing a better relationship (e.g., warmth, positive time together, etc.). Additionally, two programs – PMT and MST – have an additional common element, that of supervision/monitoring of children's behavior and whereabouts. TIY and PCIT were both initially developed for use with younger children (i.e., ages 3 – 9; Eyberg & Robinson, 1982; Webster-Stratton & Hammond, 1997) whereas both MST and PMT were developed for use with older children (i.e., emerging adolescents; Henggeler et al., 2003; Patterson, Chamberlain, & Reid, 1982). Thus, it makes sense that the programs developed for older youth who are beginning to have time away from parents and develop autonomy also would have an element of supervision – that is, knowing where your children are, and with whom they are spending their time. Each of these four elements appears to play a key role in the development of healthy family relationships.

There are several studies that support the identification of these four elements as descriptive of quality parenting, although these reviews may use different language to describe the same phenomena. For example, Wyman, Sandler, Wolchik, and Nelson (2000) reviewed studies of parenting interventions and identified supervision, consistent structure and discipline, parent attitudes and active involvement, and good family communication. In a 2008 component analysis of parent training programs, Kaminski and colleagues found components consistently associated with larger effect sizes: positive parent-child interactions, better emotion communication skills, consistent discipline (e.g., using time out), and practicing skills with their children during parent training sessions.

Notably, this review examined programs for parents with children aged 0-7, and thus it is not surprising that supervision/monitoring was not an identified component.

Encouragement, also described as positive reinforcement, is the use of praise in a manner designed to increase desired behaviors. Appropriate discipline and limit setting have to do with the use of responses that are both developmentally appropriate, but that also match the significance of the transgression. That is, an appropriate response to a 3-year-old child who does not comply with a parent's request for help setting the table should be different than the response to a 15-year-old child who has broken curfew and tests positive for illicit substances.

Parent-child relationship development can be measured and encouraged in a number of different ways. For example, parents may be assigned "homework" to spend at least 3 hours of positive time together with their child. Other examples of an emphasis on a warm relationship include affectionate words and gestures, (e.g., hugs, saying "I love you"), and helping parents identify the positive characteristics and strengths of their children. Supervision and monitoring, although not specifically emphasized in the two programs developed for younger children, are both key factors in appropriate parenting. One might consider training parents in monitoring as an intervention to help reduce CWS supervisory neglect. In younger children, this monitoring may have more of an emphasis on child safety (e.g., in what contexts would it be acceptable for your child to be out of your sight). Additionally, monitoring includes knowing children's teachers and friends by remaining engaged with the child's social and academic spheres.

As noted previously, it is common for parents and children to receive services while children are in out-of-home care, but these services are far less common once

children are returned home. Additionally, parents rarely have the opportunity to practice any skills they may acquire before their children are returned home. Even when parent skills are improved, negative contextual factors may undermine any progress that has been made (e.g., Wahler, 1980). Thus, contextual and individual factors cannot be ignored, either in models of problem development or in intervention programs. However, there are very few published studies that test the effects of programs designed to help families manage the stress and turbulence that often accompany reunification.

One of the few studies of the effects of a parenting intervention on family functioning after reunification from foster care was conducted as part of a randomized clinical trial of PCIT (Chaffin et al., 2004). In this study of 110 CWS-involved families, the authors reported that a reduction in negative parent-child interactions reduced the risk of re-abuse and re-entry into the foster care system. In that study, non-specific changes such as reductions in parental stress or changes in parent attitudes did not have effects on re-abuse risk, which points to the importance of targeting specific parenting behaviors, and may support the hypothesis that parent-child interactions are the active ingredient in promoting a cascading effect of positive change.

Child contributions to family functioning.

Risk factors associated with child maltreatment. There are mixed results regarding risk factors related to child characteristics. For example, premature birth and low birth weight are associated with child maltreatment in some studies (e.g., Sidebotham & Heron, 2006; Wu et al., 2004), but not in others (e.g., Brown et al., 1998, Leventhal, Ergeter, & Murphy, 1984; Mersky, Berger, Reynolds, & Gromoske, 2009). Similarly mixed results have been found with child characteristics that include child behaviors

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(e.g., internalizing vs. externalizing), developmental delays, physical disabilities, and overall child health (e.g., Brayden et al., 1992; Goldson, 1998; Hibbard & Desch, 2007; Sullivan & Knutson, 2000).

Behavior problems. Behavior problems might be one risk factor for children entering foster care. These problems can be very stressful for parents, and if they lack the skills to manage difficult behaviors, they are likely at increased risk for abuse or neglect. Lau (2003) reported that parents with verified reports of abuse tended to report more externalizing behavior problems in their children than parents without abuse histories, but that during a parent-child interaction task, there were no observed child behavior differences between the abused and non-abused groups. This may indicate that parents with abuse histories perceive higher levels of problem behaviors. Additionally, poor parenting has been shown to increase noncompliance and other behavior problems in children, making it more difficult for foster parents after children are removed from their homes of origin (Newton, Litrownik, & Landsverk, 2000).

Placement instability. Disruption from foster care may be one of the strongest predictors of future outcomes. Of children placed in long-term out-of-home care, published estimates show that a range of 20% to 50% will experience unplanned interruptions in care; some children will change foster care homes multiple times in a very short time frame, exacerbating extant challenges in social and academic skillsets (Barth, et al., 2008; Miller, Fisher, Fetrow, & Jordan, 2006; Minty, 1999). When children are moved from foster home to foster home, they have to continually adapt to a changing environment, and at the same time, adjust to the loss of care from primary caregivers (Fisher, Kim, & Pears, 2008). Children who experienced multiple changes in placement

had more than double the risk (63%) for behavior problems than children who did not (Rubin, O'Reilly, Luan, & Localio, 2007). Additionally, there is growing evidence that there are neurobiological effects of placement instability on children's developing brains, impacting brain regions responsible for inhibitory control and emotion regulation (Fisher, Gunnar, Dozier, Bruce, & Pears, 2006; Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007).

For example, one study of more than 400 children placed in out of home care for at least 5 months found that a history of care disruption, as measured by changes in placement, was associated with increases in both internalizing (e.g., anxiety) and externalizing behavior problems (Newton et al., 2000). The authors noted that children who do not display behavior problems, and who score in the normal range on scales of problem behavior measurement, may be the most vulnerable to the negative effects of placement volatility. They also noted that the single strongest predictor of disruption was externalizing behaviors.

This is consistent with other work on placement disruption. Oosterman and colleagues (2007) conducted several meta-analyses to identify potential factors associated with disruptions in foster care. They found that externalizing behaviors were the strongest single predictor of foster care disruption in multivariate studies (but not when children were placed in kinship care). They also noted additional mediating and moderating factors, including child's age (older age increased disruption probability) and quality of foster care. Furthering the hypothesis associating problematic behaviors with placement disruption, a 2010 study of almost 250 children in out-of-home care reported a linear relationship between problem behaviors and placement disruption, while accounting for

other potential predictors (e.g., number of children in the home, type of placement, etc.;

Hurlburt, Chamberlain, DeGarmo, Zhang & Price, 2010). The authors also noted that in

this sample, there appeared to be a tolerance threshold such that reports of 6 or more

problem behaviors per day conferred risk of placement disruption. Better understanding

the predictive effects of placement instability while in foster care, and its associations

with child behaviors, may help program developers identify more effective avenues of

intervention.

   Reunification failures. Many researchers have attempted to identify predictors of

reunification (e.g., effects of parental visitation, use of social services, etc.; Davis,

Landsverk, Newton, and Ganger, 1996). For example, Davis and colleagues noted that

child psychosocial functioning affected the probability of reunification. Using

information from multiple reporters and sources, they identified three potential predictors

of reunification rates: emotional/behavioral problems, developmental/learning problems,

and physical handicaps/acute medical problems. In their sample of more than 650

children in the foster care system, children with emotional/behavioral problems, and

particularly those with externalizing behaviors, were half as likely to be reunified as

children without those problems. This finding held even after they controlled for other

potential predictors such as background characteristics and type of maltreatment.

Notably, neither developmental nor medical problems were significant predictors of

reunification.

   Pre-unification behavior problems exhibited by children in the CWS may account

for at least some of the variance in rates of reunification failures. For example, in a study

examining the effectiveness of intensive reunification services versus services as usual

(SAU; Fraser et al., 1996), the authors found that in the experimental group, child behavior problems (e.g., externalizing behaviors and delinquency) were the most common reason for failed reunification and re-entry into the foster care system. Another 1996 study (Landsverk, Davis, Ganger, Newton, & Johnson) found that there were significantly lower rates of reunification for children with high levels of behavior problems, particularly externalizing behaviors.

Barth and colleagues (2008) used data from the National Survey of Child and Adolescent Well-Being and created multivariate models to identify factors associated with re-entry in a sample of more than 270 children, aged 5 to 12 years old. They found that higher scores on a commonly used inventory of problematic behaviors were associated with re-entry into the foster care system. The authors note this is not the only variable that predicts re-entry, but hypothesize that child behavior problems are particularly stressful for families attempting to re-unify. This study points to the importance of addressing family interactions post-reunification.

One factor that may indicate problem behaviors as a risk factor is placement instability once children enter the system. Wells and Guo (1999) found that such instability was a risk factor for re-entry into the system. They examined the records of more than 2500 children in a longitudinal study of reunification and re-entry. Children who had an increase in the number of moves during their time in foster care showed an increase in rates of re-entry of 30% higher than children who had more stable foster care placements. Although the authors did not report reasons for placement instability, there is evidence that children with greater instability have higher rates of behavior problems (e.g., Cooper, Peterson, & Meier, 1987; James, Landsverk, & Slymen, 2004). Foster

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parents find serious externalizing behavior problems as the most challenging circumstance to manage, and as a result, externalizing children are often placed in multiple foster homes (Chamberlain, Moreland, & Reid, 1992). Finally, placement instability also can be a precursor to behavior problems (Newton et al., 2000). All the above evidence points to the difficulties families of origin are likely to face when children return home.

A comprehensive review by Kimberlin, Anthony, and Austin (2009) summarized the studied risk factors for re-entry after reunification, and separated them into several categories. Child characteristics that were risk factors included identifying as African-American, being either in infancy or in adolescence, child physical and mental health, and behavior problems (but did not differentiate between internalizing and externalizing behaviors). Explanations for these risk factors centered on the greater potential stress associated with caring for infants and/or adolescents, as well as the correlations between minority status and lower socioeconomic status.

There are fewer published studies of contextual factors that predict rates of re-entry. One such study that did examine post-reunification variables identified risk factors across multiple socioecological levels (e.g., parent and child characteristics, parent and child service utilization, family and neighborhood environments; Miller et al., 2006). The authors identified several factors that separated families with failed reunifications from those with successful reunifications. These include service utilization (e.g., substance use for parents, educational services for children, therapy for children), parenting factors (parenting skills, appropriate application of discipline), and broader contextual factors like neighborhood quality. This study provides important insight into broader contextual

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factors that may affect successful reunification, but it was limited by a small sample size, which precluded testing more complex models or multivariate analyses.

Considering explanations for poor child outcomes after reunification, Taussig and colleagues (2001) suggest several potential avenues of investigation. One is based on the assumption that parenting problems and/or family issues (e.g., Fraser at al., 1996) are not fully addressed, and thus reunification increases the risk of additional negative outcomes. The authors note that CWS-involved families are at greater risk for a number of contextual risk factors, such as low socioeconomic status, housing instability, and food insecurity, which also can be related to negative child outcomes. They also hypothesize that the process of reunification itself can be stressful enough to trigger or exacerbate child behavior problems and/or diminish any gains made while the child was in out-of-home care.

Protective factors associated with child maltreatment. There is a growing body of evidence that supports effective prevention and intervention efforts to address the challenges of foster care disruption. For example, a 2008 study examined the effects of a multi-dimensional intervention for preschool-aged children in foster care with a history of placement instability (Fisher et al., 2008). The intervention contains components for children, foster parents, and permanent placement resources (e.g., biological parents and adoptive parents) and provides a high level of initial support (e.g., daily phone calls, 24-hour on-call staff, weekly support groups, etc.). The authors reported that children assigned to the intervention had twice the rate of successful permanency (i.e., reduced placement disruption) than did children in the control group. This indicates support for

providing treatment not just to children or to caregivers, but to identifying systemic interventions.

Finally, there is a newer line of investigation that seeks to identify factors that may protect children in out-of-home care from subsequent negative outcomes. Healey and Fisher (2011) reported that developmental factors (i.e., normal range of attention, executive function) and reduced environmental stress within the context of early experiences of foster care were associated with more positive outcomes (e.g., normal range of emotion regulation skills, attainment of educational status). In the study, the adolescents identified a variety of psychological and social protective factors, including self-efficacy, identification of future goals, social support and community service involvement.

Parent-child contributions to family functioning.

The role of reciprocal reinforcement. In the child maltreatment literature, there is strong support for reciprocal reinforcement of parent-child behaviors, with the premise being that maltreated children will have more problem behaviors, which then increases the risk for further maltreatment (e.g., Reid, 1986). Abuse tends to occur during parent-child interactions within the context of parental discipline (Gil, 1969, 1971; Herrenkohl, Herrenkohl, & Egolf, 1983) but the children of parents who use ineffective and/or inconsistent discipline methods are more likely to exhibit problem behaviors (Elmer & Gregg, 1967; Reid et al., 1981; Reid et al., 1982). The cyclical nature of aversive interactions has been noted in several studies. For example, Lorber, Felton, and Reid (1984) found that abusive mother-child dyads were four times more likely to maintain aversive interchanges, once begun, than non-abusive dyads.

There is growing evidence that parent psychological well-being can contribute to the development or exacerbation of child behavior problems (Margalit & Kleitman, 2006), and that parent-child interactions are a complex and dynamic phenomenon. For example, Lahey and colleagues (1984) reported that parents experiencing extreme mental and/or physical stressors were likely to have more reactive and punitive responses to children's negative behaviors.

Conversely, children's problem behaviors can be seen as a stressor that impacts parents' well-being, emphasizing the reciprocal nature of parent-child interactions. There is considerable evidence that parental stress is higher in families with children who have mental health problems, particularly if those problems are externalized (Barkley, Anastopoulos, Guevremont, & Fletcher 1992; Harrison & Sofronoff, 2002; Rosman, McCarthey, & Woolverton, 2001; Solem, Christophersen, & Martinussen, 2011). There remains the question of whether it is the parents' perception of the children's behaviors, or their actual behaviors, that is driving this association, as findings thus far have been mixed (e.g., Bigras et al., 1996; Creasey & Reese, 1996; McPherson et al., 2009). Mothers of children with three or more problems (e.g., adjustment difficulties, sadness, temper tantrums, etc.) were more than three times more likely to have higher self-reported depression scores (Civic & Holt, 2000). Scientists have also performed laboratory experiments with child confederates and shown a positive correlation between deviant child behaviors and adult feelings of anxiety and depression, as well as increased alcohol consumption (Pelham et al., 1997).

Examining interactions between parenting practices, child behaviors and parent well-being lends support to the proposal that these constructs are at play in dynamic ways

within the family. For example, Harrison and Sofronoff (2002) interviewed 100 mothers and found that child hyperactive behaviors accounted for 21% of the variance in maternal depression scores, but that this effect was moderated by how mothers viewed their ability to control their children's behaviors. In a study of interactions between depression, stress, and parental self-efficacy, Fox and Gelfand (1994) reported that mothers who were depressed, stressed and had lower parental self-efficacy saw their children as less capable and exhibited fewer positive parenting behaviors such as warmth and sensitivity. Taylor and colleagues (1998) found that a parenting program aimed at reducing problem child behaviors (Webster-Stratton's (1981) Parents and Children Series), also improved child behaviors and reduced average maternal depression symptoms.

There also is evidence that the effects of improved parent-child interactions hold over time and may predict a wide range of positive outcomes. For example, McClain and colleagues (2010) reported on a six-year longitudinal study that found a parenting intervention deployed for recently divorced mothers had positive effects on mother-child relationship quality. This then led to proximal decreases in child internalizing problems and distally, decreased adolescent internalizing symptoms and increased adolescent self-esteem. They also reported that the intervention led to increases in maternal effective discipline that led to decreased child externalizing behaviors and, in adolescence, less substance use and better academic performance. Patterson and colleagues (2010) conducted a 9-year follow-up study of parents who participated in a parenting intervention, and found that increases in parenting skills predicted better child and parent outcomes in a number of different contexts (e.g., higher income and education, fewer parent arrests and child anti-social behavior). It is unknown, however, what best predicts

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positive parent-child interactions in families who have recently reunified after foster care. This information may help to better serve these families, and lead to more effective prevention and intervention programs.

Review summary. Child maltreatment is a costly social problem with a high risk of negative outcomes across the developmental lifespan. Children placed in out-of-home care are at greater risk than the general CWS population for negative outcomes. Reunification, often the initial goal after children are removed, is a stressful time for families, and re-entry into the foster care system is a common outcome. In general, there is a lack of knowledge about family functioning once children are reunified with their parents. There are very few published studies that report in detail the post-reunification experiences of parents and children, and even fewer of those studies are based on investigations of complex interactions between factors. There is little to no follow-up with families, once reunification is complete, regarding the utility or continued implementation of pre-unification skills and services. As the deleterious effects of child abuse are significant, it is critical to understand how these families function, and how best to intervene to prevent further negative outcomes.

Despite the important links between parent well-being, parenting practices, and child well-being, there is a paucity of research on CWS-involved parents, particularly after children have been reunified from out-of-home care. The preponderance of research on well-being within CWS-involved families is on the well-being of children. It is unknown whether these parents have any change over time in their own sense of being capable parents, how that might affect their overall sense of well-being, and the interactions between those constructs and child behaviors.

As reviewed above, there are variables that consistently predict the risk of negative outcomes in families associated with the CWS. These variables can be conceptualized as primarily contextual, individual, or transactional. Additionally, some variables, (e.g., parenting practices, social support) are more malleable than others, (e.g., SES, abuse history, etc.). Investigating variables with greater likelihood of change, while accounting for variables that are immutable, may lead to the development of more effective prevention and intervention programs. There is a dearth of research on post-reunification families. That which is available tends to focus on single variables and/or direct associations. There is little published research on family functioning in this population, and there does not appear to be any published work using a socioecological model to investigate the influence of contextual and individual variables on the day-to-day experiences of these families.

Conceptual Model

Understanding what happens in families once reunification occurs is critical to preventing further neglect and/or abuse, and to promoting healthy families. The current study will add to the literature by using a socioecological model to investigate the influence of contextual factors (i.e., substance use treatment, social support), individual factors (i.e., history of IPV, parent mental health), and transactional variables (i.e., parenting practices) on family functioning (e.g., parent well-being and parent self-efficacy).

If, as family systems theorists propose, all members of the family affect the others, such that each member in the family influences, and is influenced by, the others (e.g., Bowen, 1978; Minuchin, 1974), then an examination of variables associated with

family members must be conceptualized as transactional. For example, Jones and Prinze (2005) suggest that parental self-efficacy may function as a transactional variable, wherein high parental self-efficacy may be the result of better parenting skills, which would then predict better child behavior. This improved child behavior then serves as positive reinforcement, feeding back data to the parents that their parenting decisions and behaviors are successful. Conversely, lower parental self-efficacy may be a reflection of lower parenting skills, resulting in poorer child behaviors, and providing negative feedback, increased parental frustration, and lower parental self-efficacy.

The theory of reciprocal reinforcement is another example of the transactional nature of family functioning. Based on social interactional principles, Patterson (1982) described reciprocal reinforcement as a series of transactions between parent and child, in a relationship in which each participant uses data from the other to both understand and produce subsequent behaviors. He described how families can fall into a cycle of coercion as a battle for control of the home. As an example, the parent issues a directive, the child responds with argument, the parent engages in the battle with the child, and the situation can escalate to the point that the parent withdraws the initial request (thus being coerced by the child).

Alternatively, families also could engage in positive cycles of reciprocal reinforcement. For example, a parent might use encouragement-based strategies to manage problem behaviors (e.g., praise the pro-social opposite of the problem behavior, or provide incentives), which in turn would drive the child to engage in more positive behaviors (and reduce problematic behaviors), which provides the parent with feedback that the strategy is working. For example, Bandura and colleagues (2011) found that

dyadic family efficacy (parent-child and spousal dyads) was linked to overall family functioning and family satisfaction. However, this was mediated by collective family efficacy, which was correlated with high levels of communication and disclosure.

Family well-being is composed of contributions from parents, children, and parent-child interactions, and thus, there is a strong literature that supports reciprocal relationships between parent and child outcomes and behaviors (e.g., Crockenberg, 1981; Crowley & Kazdin, 1998; Dodge, Pettit, & Bates, 1997; Ge et al., 1996; Grolnick & Ryan, 1989; Steinberg, 1989). For example, Olweus (1989) investigated factors that predict adolescent boys' aggressive behaviors and found that child temperament predicted behaviors indirectly, mediated by maternal responses (e.g., permissiveness) to child aggressive behaviors. There is much research to suggest that family interaction styles are predictive of both proximal (e.g., problematic child behaviors) and distal outcomes (e.g., juvenile delinquency). For example, Reid (1993) reviewed both longitudinal and treatment studies and noted that the prevention of conduct disorder (child behavior) was strongly linked to effective parenting strategies for both discipline and monitoring.

Researchers studying the phenomenon of reciprocal parent-child reinforcement have contributed significantly to the literature, particularly for maternal depression and for child welfare. For example, Elgar and colleagues (2004) reported that maternal depression can lead to extremes of parenting behavior (either too intrusive or too withdrawn) that can then provoke externalizing behaviors in children. Depressed mothers struggle to manage these behaviors, which predict increases in problematic child behaviors. In another study conducted over 3 years, symptoms of both parent and

adolescent distress (e.g., depression, anxiety, and hostility) were reciprocally related over time, even after controlling for any symptoms reported before the commencement of the study (Ge, Conger, Lorenz, Shanahan, & Elder, 1995). In a longitudinal cross-lagged study of maternal depression and child behavior problems, Elgar and colleagues (2003) found stable relationships between these two constructs. They also noted that although maternal depression either preceded or coincided with child behavior problems, when children were aggressive or hyperactive, depressive symptoms increased. A pooled time-series analysis of day-to-day interactions helped further describe these interactions (Elgar et al., 2004). In that analysis, they noted that both mother and child behaviors were reciprocally related in both short- and long-term time periods.

As research reviewed above indicates, family functioning is a complicated and dynamic phenomenon. The conceptual model for the current study proposes that the investigation of this phenomenon should take into account contextual, individual and transactional factors. Substance use, partner violence and prior behaviors exhibited by both parents and children can influence current parent and child behaviors. Contextual factors such as the availability of social support and family services can moderate parents' ability to provide adequate and appropriate care for their children. Parenting behaviors and child behaviors influence each other, and this is particularly noticeable through the reciprocal nature of parent-child interactions. There are likely direct effects of parenting on parent psychological well-being, and of child behaviors on child psychological well-being. Additionally, the quality of parent-child interactions can affect both parent- and child well-being. Parent well-being, in particular, is also likely affected by perceived parental self-efficacy. Finally, parent- and child well-being are likely

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bidirectional influences on each other. See Figure 1 (see Appendix L for all figures) for a diagram of the conceptual model.

As previously noted, there is a woeful lack of research on the post-reunification CWS-involved families. A conceptual model that incorporates contextual, individual, and transactional factors may shed light on the experiences of this vulnerable population. Examining these factors as influenced by mechanisms of reciprocal reinforcement and/or developmental cascading effects likely provides greater ecological validity, and may help identify which particular parent and/or child behaviors would be the best targets for prevention and intervention. Contextual factors such as a history of IPV and/or substance use, parental mental health, and the availability of social support likely interact with specific family behaviors (e.g., parenting skills) in complex ways. There are likely both direct and indirect pathways between risk factors and family functioning outcomes. Examining change over time also will help parcel out the effects of acute stress associated with reunification versus chronic stress associated with problematic family interactions. A better understanding of how these families function, and what factors may increase the probability of successful reunification, may lead to the development of more effective and timely interventions, and the promotion of healthy families.

Testing the Model – The Current Study

Pathways Home dataset. The current study utilizes the Pathways Home dataset to investigate outcomes associated with family functioning in a sample of high-risk referred to the study by DHS staff. Families were randomly assigned to either treatment via Pathways Home (TX) or services as usual (SAU). The Pathways Home intervention was developed to prevent reunification failures by targeting parenting skills; improved

parenting is thought to buffer the effects of increased stressors that accompany the return of children to families after foster care. The intervention was designed using evidence from previous studies of both biological and foster care parents, and was based on social learning and social interactional principles. The targeted goals of the intervention were to increase parenting skills, decrease parent stress, and increase utilization of adaptive social support. Initial findings indicate that parents in the treatment group had half the rate of foster care re-entry as those in the control group; and that use of parental encouragement strategies was linked to decreased problematic child behaviors (DeGarmo, Reid, Fetrow, Fisher, & Antoine, 2013).

Pathways Home is a rich dataset derived from a high-risk sample over the course of a 12-month efficacy trial. It contains measurements across multiple time points, reporters, and constructs. As the current study focuses on the parents, measures specific to the study include risk indicators (e.g., history of IPV), contextual factors (e.g., social support), and parent variables including parenting behaviors and well-being. Because the phenomena under study are expected to occur in both treatment and control groups, and to preserve as much statistical power as possible, the current study will use the entire dataset, and examine variables for group differences.

As noted previously, almost all research into post-reunification CWS families relies on a single dependent variable – re-entry into the foster care system. This is understandable, as it is arguably the variable with the most practical significance – that is, are children safe in their homes, or do they continue to experience maltreatment? However, better understanding the intricate workings of the family after reunification will likely provide a more detailed and specific picture of risk and resilience factors.

Examining factors such as continued substance abuse treatment, presence of social support, and family functioning as they relate to well-being provides a more fine-grained approach, and allows the consideration of interactions between variables. Additionally, it will offer a greater understanding of the best points of continued intervention and/or the prevention of future problems.

Specific aims. The three aims of the study are based on a review of the extant literature and seek to expand the knowledge base using data from a population that is particularly difficult to study. These aims are conceived as initial steps in the testing of the conceptual model presented above. In the interests of parsimony, the current study focuses on parental well-being and behaviors, and examines the dataset from a socioecological perspective, including contextual and individual variables. Detailed specific hypotheses to support each aim of the study are listed in the Methods section.

Aim I – substance use as a contextual factor. As reviewed above, there is a body of evidence that suggests both substance use risk history exerts influence on long-term health outcomes. The goal of this aim is to test the effects of substance use history and treatment. It is expected that a history of substance use will be associated with reduced well-being, but that treatment buffers this effect and is associated with better parent well-being.

Aim II – family environment as a contextual factor. This aim seeks to investigate the effects of family risk and social support. As reviewed above, there is a large body of evidence that IPV has a negative influence on family functioning, and that social support can improve family functioning. There also is evidence that multiple transitions (e.g., parental figures, foster homes, etc.) can have a negative impact. It is

expected that a history of IPV, and a history of multiple transitions in the home will function as risk factors, reducing parenting skills. It is also expected that social support will show a stress-buffering effect.

   Aim III – parenting and well-being. The third aim of the project is to examine the effects of improved parenting on parent well-being using a model of cascading time-ordered effects. As reviewed above, there are positive associations between parent self-efficacy and parent well-being. It is expected that there will be a main effect of early parenting improvements (close in time to reunification) on parent well-being. It is also expected that parental self-efficacy will enhance this effect, such that increased self-efficacy will predict greater increases in parent well-being.

CHAPTER II

METHODS

Participants

Data are drawn from the participants in the Pathways Home efficacy trial (DeGarmo et al., 2013), a parenting intervention designed to reduce re-entry into the foster care system. A total of 103 families (10 pilot families) were randomized to either the treatment condition (TX; 50) or to services as usual (SAU; 53). Due to missing data from fathers, only mothers were included in all subsequent analyses. At baseline, the majority of mothers were either divorced (n = 34; 33%) or single (n = 37; 35.9%), and also reported employment status as unemployed (n = 65; 63.1%). The majority of the mothers in the sample were either White (74%) or Hispanic (17%), which is similar to the racial composition of Lane County, where the study was conducted (U.S. Census Bureau, 2000). Mothers ranged in age from 22.81 to 49.12 years (M = 31.86).

The sample also was characterized by a number of additional risk factors, including mothers' history of drug and alcohol abuse (92%) and arrest (55%). Data from DHS case files indicated that the majority of mothers had a documented history of IPV (n = 66; 64.1%), or a likely history of IPV (n = 20; 19.4%), with IPV history unmentioned for the rest of the sample (as opposed to "documented no" or "unlikely"; n = 17; 16.5%). There were nearly equal numbers of male and female target children (52 boys, 51 girls; age range = 5.26 to 11.74 years, M = 8.28). Children had an average of five family structure, placement, or parental figure transitions, and 41% were performing below expected academic performance. Data also were gathered about family risk characteristics including physical or mental illness, substance use, partner violence, and

poverty. See Tables 1 through 4 (see Appendix M for all tables) for demographic

characteristics of the sample.

Recruitment. Participants were referred by child welfare staff working for DHS.

To be eligible for the study, families must have had a target child between 5 and 12 years

old, and there must have been a plan for reunification with at least one biological parent.

Additionally, this must have been the first time for the family to reunify after foster care.

Initial recruitment occurred through Child Welfare Services (CWS) staff. Pathways

Home staff explained the study to CWS staff during scheduled meetings, and distributed

study contact information. CWS staff were asked to contact Pathways Home staff when

cases were approaching reunification. Pathways Home staff screened potential referrals

for eligibility and randomly assigned them to the intervention or control condition.

Families were offered participant payments at a rate designed to motivate continued

enrollment in the study (Capaldi & Patterson, 1987), and child care also was provided.

Materials

Data were collected using a multi-agent, multi-method approach aimed at

minimizing bias and error. Prior to reunification, at the baseline wave of assessment, the

biological parent participated in a 1.5-hour assessment consisting of an interview and

questionnaires, administered in person by trained assessors. This assessment was repeated

after each phase of intervention, or approximately 4 and 8 months after reunification for

SAU families (6 months and 12 months from baseline). At the final wave, 12 months

after reunification, child welfare records were collected again to determine whether cases

had re-opened. See Appendix A for a table showing a list of measures as collected by

time point, and Appendices B through J for a full copy of each measure used. All

measures used, except as noted, had adequate reliability and construct validity, and were approved for use during the Pathways Home research study funded by the National Institute of Mental Health (Grant Number: 1 P20 DA017592). For quantitative scale scores created specifically for this study, internal consistency of items will be assessed with principal components analyses (PCA) and Cronbach's alpha. Additional details about reliability are reported below.

Contextual factors.

Parent Services Interview (PSI). The PSI is a 12-item measure that gathers information about which professional services parents might have used for a number of problems including mental health, parenting issues, gambling, etc. Parents indicate whether they have received services of a given type, from whom, how helpful the provider was, and if any medication was prescribed. At baseline, parents report on services received in the last year. Wave 3 data record services parents have received since reunification, and Wave 5 data record parents' service use since the last interview (at Wave 3). The PSI is a semi-structured interview instrument and thus not appropriate for internal consistency evaluation

Social Support Questionnaire (SSQ; Sherbourne & Stewart, 1991). The SSQ is a 20-item measure that gathers information on how much of the time (5-point Likert scale) parents receive support across five different domains (e.g., emotional, financial, social, etc.). Parents also indicate how satisfied they are with the level of support they are receiving in each of these domains. The mean of these items is used in the current study. There is no specific time frame given when administering the SSQ (e.g., *In the last 6 months, etc.*), and the authors note that the SSQ may be a good instrument to measure

changes in perceived support that occur within the context of other life changes (Sarason, Levine, Basham, & Sarason, 1983). Sarason and colleagues (1983) reported Cronbach's alpha of .97, and test-retest correlations of .90 (overall number) and .83 (satisfaction). In the current study, reliability also was very high (i.e., Cronbach's alpha, Wave 3 = .92; Wave 5 = .97).

DHS case file data. Information collected from DHS case file data will be reviewed to gather data about substance use risk, IPV, and family transitions. Description of the construction of these variables will be reported in the Results section under *Data Reduction*.

Parenting.

Monitor and Parent-Child Relationship Questionnaire (MPCR; Capaldi & Wilson, 1998). This short measure asks parents to indicate how often (using a 5-point Likert-type scale) over the past 4 months have 11 items related to supervision and neglect happened to the child (e.g., did not get needed medicine, got lost, played out of adult eyesight, etc.). Parents also answered questions about parent-child communication and relationship. Cronbach's alpha has been reported to be adequate (e.g., .72; Martin, Bruce, & Fisher, 2012).

Parent Daily Report (PDR; Chamberlain & Reid, 1987). The PDR is a 40-item ordinal questionnaire completed by caregivers. The PDR is completed to record the child's behaviors in the previous 24-hour period. Parents are asked to report whether any of the problem behaviors occurred and whether the occurrence was stressful for the caregivers. A PDR caller who has been trained to reliability uses a standardized calling protocol. Each problem behavior is queried (even when not typical for a given youth, to

capture even low base rate events), but caregiver stress is only queried for behaviors that are endorsed. The responses for each behavior are rated as 0 (*behavior did not occur*), 1 (*behavior occurred but was not stressful*), or 2 (*behavior occurred and was stressful*). Parents are also asked to grade the child's day (A – F), and to describe any discipline or encouragement used in the last 24 hours.

The PDR has been significantly related to the Becker Adjective Checklist (aggression and conduct items) and to home observation of the youth's aversive behavior. It has demonstrated strong inter-caller and temporal stability and inter-parent reliability. Test-retest reliability range is .60–.82, and inter-observer reliability range is .85–.98, with stable psychometric properties (Chamberlain & Reid, 1987; Keil, 2007).

Parent interview (PI). This measure is a 106-item structured interview which gathers information across seven domains: child's routine, child's interests, family interests, house rules, discipline, supervision, and family adjustment. This is a qualitative instrument and thus inappropriate for reliability analysis. Items from the PI will be used in the construction of additional factors for the parenting latent variable.

Parent self-efficacy. Techniques for Parents (TFP). The TFP was designed to assess parental perception of efficacy across 11 specific parenting behaviors (e.g., encouragement, setting limits, etc.). Parents are asked to indicate if they are doing the behavior, and if so, how well they think they are doing them on a 5-point Likert scale. Designed for the Pathways Home study, inter-item reliability has not yet been reported and will be reported in the current study.

Parent well-being.

Alcohol and Drug Craving Scale (ADCS). This measure was adapted from the Penn Alcohol Craving Scale (Flannery, Volpicelli, & Pettinati, 1999). The Pathways Home ADCS included 10 items rated on a 0 to 6 Likert-type rating scale assessing thoughts, cravings, craving intensity, and rated resistance for alcohol and drugs. The authors reported high inter-item consistency (Cronbach's alpha for mothers = .93; DeGarmo et al., 2013).

Brief Symptom Inventory (BSI; Derogatis & Spencer, 1993). The BSI is the brief form (53 items) of the Revised Symptom Checklist-90 (Derogatis, 1993), and assesses psychiatric symptoms of psychological distress on nine subscales using a 5-point Likert-type scale. The subscales are somatization, obsessive/compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychosis. The BSI has demonstrated strong convergent and predictive validity (Derogatis & Melisaratos, 1983), with reported test–retest reliability of .90 across a 2-week interval. The Anxiety and Depression subscales from the BSI will be used in the current study.

Center for Epidemiological Studies - Depression Scale (CESD; Radloff, 1977). The CESD is a 20 item self-report measure that is well-established and widely used to gauge depressive symptoms with acceptable reliability and validity. Participants are asked to indicate how well the statements describe them during the past week using a 4-item Likert-type scale. Radloff (1977) reports Cronbach's alpha of .85, and test-re-test reliability with a range of .32 (2 weeks) to .67 (1 year). Devins and Orme (1985) wrote an extensive review which concluded the CESD had adequate psychometric properties.

Procedure

The Pathways Home intervention was delivered in two phases during individual sessions with a family consultant. See Figure 2 for a timeline of treatment and data collection. Phase One of treatment began just prior to reunification, continuing through the early stages of family reunification. It included 16 weeks of parent management training and healthy self-care strategies. After an 8-week break, Phase Two continued for an additional 8 weeks for fine-tuning of parent management skills, assessment of level of risk for future harm to family members, and to develop a family protection plan to address those risks. Family consultants delivering the intervention were Master's level social workers who were trained and supervised by experienced Ph.D. psychologists. See Appendix K for an overview of the intervention, including session content.

Data Analysis Strategy

There are three over-arching aims of the project. Testing of the model will proceed from a macro perspective examining contextual factors associated with parent functioning and then examine specific hypothesized cascading effects of parent function on well-being. A combination of statistical methods will be used to investigate the specific aims. Before analysis related to research aims, the data will first be examined for normality. Any data with non-normal distributions may be subjected to transformation. Scatterplot analysis and other descriptive techniques will be used to better understand the configuration of the data set. As appropriate, measures will be subjected to reliability analyses (Cronbach's alpha), to verify previously reported data on measure reliability.

Between-group comparisons will be made to test whether there are significant differences between TX and SAU on all variables at each time point. Secondary analyses

may be conducted to identify whether group membership was a significant predictor of change on any variables. Given no significant treatment effects, treatment covariate will be omitted for parsimony. Principle components analysis (PCA) will be used to construct latent variables for both parenting skill (using MPC and PI data) and mental health distress (using ADCS, BSI, and CESD data).

Once the final data set is constructed, path analysis using Structural Equation Modeling (SEM) will be used to test hypotheses associated with study aims. Path modeling is appropriate when testing hypothesized directionality of influence using multiple endogenous variables (e.g., Everitt & Dunn, 2001; Jobson, 1991; Mitchell, 1993). Confirmatory factor analysis (CFA) will be used to confirm measurement models before continuing to structural equation modeling.

Aim I – substance use as a contextual factor. The first aim of the project is to investigate substance use as a contextual factor which may have an influence on distal outcomes with this population. See Figure 3 for a visual representation of the first aim. There is a body of evidence that suggests substance use exerts influence on long-term health outcomes. The goal of this aim is to test the influence that substance use (SU) risk and treatment have on this population. Specifically:

H1a: Baseline SU risk will predict well-being at both Wave 3 and Wave 5, such that higher levels of SU risk factors at baseline will predict lower levels of parent well-being (ADCS, BSI, CESD) at Wave 3 and Wave 5.

H1b: SU treatment will buffer the effects of baseline SU Risk, such that recent SU treatment reduces the negative effect of Baseline risk, and results in improved well-being (i.e., for those at risk, treatment received since Baseline predicts improved well-

being at Wave 3 and; treatment received after Wave 3 (measured at Wave 5) predicts improved well-being at Wave 5.)

Aim II – family environment as a contextual factor. This second aim is to investigate parenting within the context of the family environment. See Figure 4 for a visual representation of the second aim. There is evidence that both multiple transitions in the home and IPV can have a negative influence on family functioning. There also is evidence that social support (SS) can improve family functioning. The goal of this aim is to test the influence that the family environment has on parenting. Specifically:

H2a: Baseline environmental risk factors (i.e., IPV and family transitions) will have a negative effect on parenting, such that increased risk will predict reducing parenting skills at both Wave 3 and Wave 5.

H2b: The presence of social support will buffer this effect, such that SS reported for the time frame just prior to data collection will predict higher levels of parenting skills.

Aim III – parenting and well-being. The third aim of the project is to examine the effects of improved parenting on parent well-being using a model of cascading time-ordered effects. See Figure 5 for a visual representation of the third aim. There is evidence of the associations between parental well-being, parental self-efficacy (SE) and parenting skills. However, directionality is not established. It is hypothesized that better parenting predicts better parental well-being, and that SE will influence this relationship. Specifically:

H3a: Higher parenting skills at Wave 2, Wave 3, and Wave 4 will predict improved parent well-being at Wave 5.

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H3b: Parental SE will influence the effects of parenting skills on well-being, such that low parental SE will reduce the effect that higher parenting skill has on parental well-being.

CHAPTER III

RESULTS

Study hypotheses were tested using structural equation modeling (SEM). SEM is a regression-based maximum likelihood estimation procedure based on multivariate normal assumptions. Analysis began with data reduction and psychometric evaluation of items used for construction of the manifest variable scale scores included in SEM latent factors. At the latent variable construct level, both exploratory and confirmatory approaches were used, employing principal components analysis (PCA) followed by confirmatory factor analysis (CFA) to evaluate measurement of parenting skills and parent well-being. Prior to scale development, items were examined for distributional properties and assumptions of normality. Scale score distributions were also examined and transformed where appropriate. Zero-order correlations were used to inform more complex models. Scale scores were also evaluated for internal consistency using coefficient alpha.

The following fit indices were used to evaluate model fit: chi-squared (χ^2), comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA) along with p-close (the probability of a hypothesis test that the population RMSEA is no greater than .05). Chi-square minimization is the minimum value of the discrepancy between the specified model and the data. CFI reflects the proportion of improvement in fit relative to the null (or independence) model, and ranges from 0 to 1. TLI is a non-normed fit index which analyzes the discrepancy between the chi-squared values of the hypothesized and null models, and although typically ranges between 0 and 1, can fall outside that range. TLI is less sensitive to sample size. RMSEA

indicates absolute fit adjusting for model parsimony; that is, the magnitude of the

covariance residuals are adjusted for degrees of freedom.

For adequate model fit, the p-value of χ^2 and the p-close of RMSEA should be

non-significant (i.e., $p \geq .05$), CFI and TLI should be $\geq .90$, and RMSEA should be $\leq .06$

(Hu & Bentler, 1999). By the most conservative standard, a good-fitting model will pass

the given criteria for all these fit indices. A more lenient standard would allow for

labeling slightly lower index values as reflective of marginally well-fitting models (Hu &

Bentler). As there were strong correlations between Wave 3 and Wave 5 variables

(reported below), collinearity diagnostics also were examined for variables at Wave 3 and

Wave 5. These were found to be within acceptable ranges (i.e., Variance Inflation Factors

(VIF) <10.0; tolerance values >.1; Hair, Anderson, Tatham, & Black, 1995; Kennedy,

1992; Marquardt, 1970; Neter, Wasserman, & Kutner, 1989; Tabachnick & Fidell, 2001).

Mardia's coefficient (Mardia, 1970) was used to examine multicollinearity for the final

structural models associated with each aim. These tests indicate that the structural models

contained a substantial degree of multivariate collinearity (i.e., Mardia's coefficient >

5.0; Teo, Tsai, & Yang, 2013).

Data Reduction and Construction of Variables

      Predictor variables.

      Substance use risk. Substance use risk was a five-item summative risk index.

Five items from Child Welfare Services (CWS) case files, coded by how likely each was

to be true for a specific family (i.e., *documented yes, likely, unlikely, documented no*),

were examined. These items were: *child prenatal drug exposure, family drug use risk,*

family alcohol use risk, drug paraphernalia risk, and maternal drug use. Items were

dichotomized, coding *documented yes* and *likely* as 1 and *unlikely* and *documented no* into 0. Inter-item reliability analysis indicated that the scale had low but acceptable internal consistency (KR-20 = .61; Kuder & Richardson, 1937), likely due to variance in item difficulty (e.g., prenatal exposure versus family alcohol risk). Additionally, all items were face valid indicators of Substance Use Risk, and as such were included in the final variable, computed as a sum of the five items (range = 0-5).

Substance use treatment. Substance use treatment information was gathered from the Parent Services Questionnaire, which asked if parents had received help for substance use problems since their child had returned home (Wave 3), or since the last interview (Wave 5; *Yes* = 1; *No* = 0). In the current study, there was no differentiation between type of treatment (e.g., whether the help was from a professional, a support group, etc.) nor was perceived helpfulness taken into account.

Family chaos. Family Chaos was a four-item scale indicating unstable and chaotic family environment obtained from the CWS case files. Data from these case files were coded for how accurate (i.e., 0 = *very,* 1 = *somewhat,* 2 = *a bit,* 4 = *not at all*) the following items were for a specific family: *many changes to parental figures, high household traffic, unstable housing, and chaotic home environment*. Scores on items were recoded so that higher scores indicated increased family chaos. Internal consistency analysis indicated that the scale was adequate (Cronbach's alpha = .74). Items were averaged as an indicator of a chaotic home environment at baseline.

Intimate partner violence. It was originally hypothesized that a history of partner violence at baseline would predict poorer parenting skills after reunification. However, as reported under descriptive statistics in the Methods section, there was no variance in the

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data. Responses to this variable were either positive for documented or likely partner violence (n = 86; 83.5%) or missing (n = 17; 16.5%). As this variable cannot offer any meaningful statistical contribution, it was dropped from further analyses.

Encouragement. For each wave of Parent Daily Report (PDR) data (Wave 2 = 32 time points; Wave 4 = 16 time points), participants were asked if they had used encouragement with their children over the last 24 hours. Responses were dichotomous (i.e., *Yes* = 1, *No* = 0). The encouragement variable was calculated by dividing the total number of times participants endorsed using encouragement by the number of days for which data was present (to account for missing data), essentially providing a percentage of days encouragement was used.

Parental self-efficacy. The score for this variable was taken from the mean of the 11 items on the Techniques for Parents measure, a new measure implemented during the current study. Cronbach's alpha was good (Wave 3 = .83; Wave 5 = .79) with all items contributing to the overall reliability of the measure, as evidenced by examining the alpha if item were deleted, and thus a single score was calculated to simplify further analysis. However, it was discovered that none of the families in the pilot study (n = 10) completed this measure. This non-random missingness, coupled with additional missing data due to attrition, led to low sample size (at Wave 5, n = 68). Therefore, PE and the accompanying hypotheses were dropped from analyses.

Latent variables.

Parental well-being latent variable. Measures considered for inclusion in the parental well-being latent variable included the following: BSI-Anxiety, BSI-Depression, CESD, and the ADCS. Because the distributions of scores on the Alcohol Craving and

Drug Craving subscales from the ADCS were extremely skewed, scores were log-transformed. Principal components analysis (PCA) using eigenvalue extraction and varimax rotation suggested that a two-factor solution was most appropriate for the data, with drug and alcohol cravings loading onto one factor and mental health measures loading onto another. Amos (Arbuckle & Wothke, 2006) was used to fit the two factor solution to the data, and Wave 3 and Wave 5 data were examined concurrently to account for potential differences between time points. The model did not fit the data well as measured by accepted standards (e.g., CMIN > .05, TLI < .90, CFI < .90, RMSEA > .10, p-close < .05).

A single-factor model that included the Alcohol Craving and Drug Craving subscales as well as the mental health variables fit poorly as well. In sum, including any measures of substance use cravings indicated an extremely poor fit to the data, and thus the ADCS was excluded from the parental well-being latent variable. Trimming cravings, a model which included only mental health measures (i.e., BSI-Anxiety, BSI-Depression, and CESD) provided good fit to the current data ($\chi^2(5) = 9.83$, p = .08; CFI = .98; TLI = .95; RMSEA = .09, p-close = .16). See Table 5 for standardized and unstandardized coefficients and p-values for these parameters. Wave 3

Parenting latent variable. Items from the Monitor and Parent-Child Relationship (MPCR) scale and the Discipline section of the semi-structured parent interview (PI) were examined as potential indicators of a superordinate parenting latent variable. Face-valid items from both measures were submitted to principal components analysis (PCA). Amos (Arbuckle & Wothke, 2006) was then used to fit the model across both Wave 3 and Wave 5. Final items included in analyses are highlighted in the Appendix.

The MPCR contains three sets of items. The first of these was Conversation, consisting of four items (e.g., *How many days of the week do you usually talk to your child about what happened during the day*, range = 0-7). This subscale indicated adequate internal consistency (Cronbach's alpha Wave 3 = .78; Wave 5 = .86), and PCA using eigenvalue extraction with varimax rotation indicated a single factor solution which explained a substantial portion of the variance in item scores (Wave 3 = 62%; Wave 5 = 71%).

The second subscale, Positive Feelings, initially contained five items (e.g., *It has been a pleasure to parent my child*, scored on a Likert-type scale, 5 – *Very much agree* to 1 – *Very much disagree*). One item was reverse-coded (*It is difficult to be patient*) and one item was dropped after PCA indicated it loaded onto a second factor as a single item (*My child tries hard to please me*). For the final four-item scale, internal consistency was low (Cronbach's alpha Wave 3 = .60; Wave 5 = .67). The final four-item factor explained a substantial portion of the variance in item scores (Wave 3 = 51%; Wave 5 = 55%).

The third subscale from the MPCR was Monitoring. Initially, 11 items rated on a 5-point scale (5 = *Very often* to 1 = Never) were considered for this subscale (e.g., *How often has it happened that your child has played out of sight of an adult*). PCA of the initial 11 items suggested at least a two-factor and potentially a three-factor structure. As the mean age of children in the study was 8 years old, with range of 5 to 11 years, the four items that were the least ambiguous about this age (e.g., *playing without adult supervision)* and which showed the strongest factor loadings onto a single factor were selected for the final subscale. Cronbach's alpha of these items was good (Wave 3 = .82;

Wave 5 = .83), and explained a substantial portion of the variance in item scores (Wave 3 = 65%; Wave 5 = 66%).

One variable, Ineffective Parenting, was extracted from the PI. This subscale was initially constructed from 10 items in the Discipline section of the PI scored on a 5-point Likert-type scale (e.g., *How often does your child get away with things they should have been disciplined for?* 1 = *never,* 5 = *almost always*). Of the ten items, two items were excluded due to a combination of poor consistency with other items, ambiguity in face validity of the item (e.g., child knowing how parent will react after the child has misbehaved) and/or loading onto a unique factor as a single item. The eight items included in the final construct were internally consistent (Cronbach's alpha Wave 3 = .79; Wave 5 = .83). PCA of these eight variables using eigenvalue extraction with varimax rotation indicated a possible one- or two-factor solution, with two variables loading onto a second factor. The decision was made to retain all 8 variables in a single factor to simplify further analyses. A final PCA was run with fixed number of factors set to 1. As a single factor, these 8 variables accounted for a significant portion of the variance (Wave 3 = 54%; Wave 5 = 59%).

Amos (Arbuckle & Wothke, 2006) was used to fit the model of the Parenting variable just constructed across Wave 3 and Wave 5, allowing Parenting at each wave to covary. The model fit the data well ($\chi^2(15) = 17.28$, $p = .30$; CFI = .99; TLI = .98; RMSEA = .04, p-close = .55). See Table 6 for standardized and unstandardized coefficients and p-values for these parameters. As expected, positive aspects of parenting (i.e., positive feelings about one's children, talking to one's children, and appropriate monitoring) loaded positively onto the latent factor whereas the negative aspect of

parenting (i.e., ineffective parenting) loaded negatively on the factor. Parenting was also highly correlated across waves.

Exploratory Data Analysis

Once the final data set was constructed, all variables were examined for assumptions of normality, including skew and kurtosis. See Tables 7 through 10 for descriptive statistics including means and standard deviations by research aim.

Between-group differences. Although the hypothesized phenomena are expected to be present regardless of group membership, ANOVAs tested differences between treatment (TX) and services-as-usual (SAU) mothers on each variable. PDR Encouragement was the only variable on which groups differed. On average, TX mothers reporting using encouragement more than did SAU mothers. (Wave 2: [$F(1, 98) = 5.45$, $p = .02$]; Wave 4: [$F(1, 81) = 9.08$ p $< .01$]). For days when data were collected, TX mothers reporting using encouragement 76% of the time at Wave 2, and 79% of the time at Wave 4, as compared to SAU mothers, who reported using encouragement 66% of the time at Wave 2, and 64% of the time at Wave 4. Given the potential for effects of the intervention, models were tested with and without random assignment, as reported below.

Correlations. To better understand associations between variables, correlations were computed for all variables associated with each specific set of hypotheses (see Tables 11 through 15).

Aim I. At the bivariate level, neither Baseline Substance Use Risk nor Wave 3 Substance Use Treatment were significantly correlated with any of the variables included in this aim. Mental health measures (BSI and CESD) were significantly positively correlated within and across Wave 3 and Wave 5, as were substance use craving

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measures (i.e., Wave 3 Drug with Wave 3 Alcohol, and with Wave 5 Alcohol). At both Wave 3 and Wave 5, mental health measures were positively correlated with Alcohol Craving, but not Drug Craving. Although mental health measures were correlated with each other, and substance use cravings were correlated with each other, mental health measures were only correlated with reported alcohol cravings but not drug cravings.

Aim II. Baseline Family Chaos (FC) was not significantly correlated with any of the variables included in this aim. Within Wave 3, Parent Positive Feelings and Monitoring were positively correlated, but neither of these was correlated with Conversation. Positive Feelings and Talking were negatively correlated with Wave 3 Ineffective Parenting (IP), but Monitoring was uncorrelated with IP. Social Support at was modestly correlated with Positive Feelings, and uncorrelated with the other parenting constructs.

At Wave 5, Positive Feelings and Monitoring were again positively correlated, and unlike Wave 3, Conversation was also positively correlated with Positive Feelings. Similar to Wave 3, Positive Feelings was negatively correlated with IP, but unlike Wave 3, Monitoring was also negatively correlated with IP, whereas Talking was uncorrelated. Unlike Wave 3, Social Support reported at Wave 5 was positively correlated to Positive Feelings, and negatively correlated to IP. In sum, there were some correlations between variables represented by these hypotheses, but these patterns in correlation were different between Wave 3 and Wave 5.

Aim III. Examining Wave 3 mental health and parenting variables, the only significant correlation is a negative one between Anxiety and IP. The Wave 5 mental health variables continued to be uncorrelated with IP and Conversation. Unlike Wave 3,

at Wave 5, BSI Depression is negatively correlated with both Positive Feelings and Monitoring, and BSI Anxiety is negatively correlated with Positive Feelings. Examining PDR Encouragement, there were no correlations between mental health variables and Encouragement at any combination of time points (e.g., Wave 2 PDR to Wave 3 or Wave 5 mental health). Encouragement was positively correlated with Conversation (i.e., Wave 2 PDR to Wave 3 Conversation; Wave 4 PDR to Wave 5 Conversation). Encouragement was negatively correlated with IP at specific time points (i.e., Wave 2 PDR to Wave 3 IP; Wave 4 PDR to Wave 5 IP), but not at others (i.e., Wave 3 IP was not correlated with Wave 4 PDR).

In the SEM models, the saved factors scores from the mental health and parenting latent variables were used to simplify structural model construction. Correlations between these variables indicate that Wave 2 PDR is positively correlated with Wave 3 Parenting and with Wave 4 PDR. Wave 4 PDR is positively correlated with Wave 5 Parenting. There was good stability across time for the Parenting and Mental Health factor score variables, as each was correlated at Wave 3 with its Wave 5 counterpart. Although at Wave 3 Parenting and Mental Health were uncorrelated, at Wave 5, there was a negative correlation between them. In sum, as in Aim I, there are correlations between variables used in the model, but these associations range in both magnitude and pattern across time.

Hypothesis Testing

Aim I. The first aim of the project was to test the effects of Baseline Substance Use Risk and recent Substance Use Treatment on well-being over time. See Figure 6 for a visual representation of the structural model created to test these effects. The final structural model included Baseline Substance Use Risk regressed on Wave 3 and Wave 5

mental health, Wave 3 and Wave 5 Substance Use Treatment regressed on Wave 3 and Wave 5 mental health, respectively, and interactions between Substance Use Treatment and Substance Use Risk for both Wave 3 and Wave 5 regressed on Wave 3 and Wave 5 mental health, respectively. The model fit the data well (χ^2(31, N = 103) = 29.98, p = .52; CFI = 1.0; TLI = 1.0; RMSEA = .00, p-close = .82).

It was hypothesized that Baseline Substance Use Risk would predict lower levels of maternal well-being at Wave 3 and Wave 5. This hypothesis was not supported. It was also hypothesized that Substance Use Treatment would predict improved well-being. This hypothesis was not supported. At Wave 3, post-reunification treatment was unrelated to Wave 3 mental health. However, at Wave 5, mothers who had received treatment since their Wave 3 interviews were more likely to have poorer mental health scores, rather than better scores. Additionally, there was a marginally significant effect of the influence of Baseline Substance Use Risk and Wave 5 Substance Use Treatment, such that mothers with higher risk who had received recent treatment continued to have worse mental health scores. See Table 16 for the parameter estimates and accompanying statistical significance associated with this model.

Post-hoc cross-tabs analysis revealed that of those mothers endorsing Wave 5 Substance Use Treatment (n = 22), the majority had also reported receiving treatment at Wave 3 (n = 17). An examination of a structural model which included only Baseline Substance Use Risk and Wave 3 data indicated non-significant results. A model with only Baseline Substance Use Risk and Wave 5 data (see Figure 7) which was a good fit to the data (χ^2 (6, N = 103) = 6.52, p = .37; CFI = 1.0; TLI = .99; RMSEA = .03, p-close = .52), indicated that although neither Baseline Substance Use Risk nor Wave 5 treatment status

predicted poorer mental health, there was an interaction between risk and treatment, such that those at higher risk who were continuing to receive treatment had the poorest mental health outcomes. See Table 17 for the parameter estimates and accompanying statistical significance associated with this model. Post hoc examination of TX vs SAU group differences indicated there were no main effects of the Pathways Home intervention. Controlling for intervention obtained no substantive differences, and therefore the covariate was excluded.

Aim II. The second aim of the project was to test the effects of Baseline Family Chaos and recent social support on parenting skills over time. See Figure 8 for a visual representation of the structural model created to test these effects. The final structural model included Baseline Family Chaos regressed on Wave 3 and Wave 5 parenting, Social Support at Wave 3 and Wave 5 regressed on Wave 3 and Wave 5 parenting, respectively, and interactions between Baseline Family Chaos and Social Support for both Wave 3 and Wave 5, regressed on Wave 3 and Wave 5 parenting. The model fit the data well (χ^2(51, $N = 103$) = 58.12, $p = .23$; CFI = .98; TLI = .97; RMSEA = .04; p-close = .67).

It was hypothesized that Baseline Family Chaos would predict lower levels of parenting skills at Wave 3 and Wave 5. This hypothesis was not supported. It was also hypothesized that social support would predict improved parenting. There was mild support for this hypothesis in that there were marginally significant associations at both Wave 3 and Wave 5. It was also hypothesized that social support would buffer the effects of Baseline Family Chaos on parenting skills. This hypothesis was not supported. See

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Table 18 for the parameter estimates and accompanying statistical significance associated with this model.

A post hoc test of this aim examined group differences between treatment mothers (TX) and services-as-usual mothers (SAU). This examination indicated that for SAU mothers, higher social support was associated with better parenting at Wave 3, but that these were unrelated at Wave 5. For mothers in the treatment group, the opposite was true in that higher social support predicted better parenting at Wave 5, but not at Wave 3. It should be noted that with the reduced sample size, the fit of the data to the model also was reduced ($\chi^2(102, N = 103) = 148.82$, $p = .02$; CFI = .89; TLI = .80; RMSEA = .06; p-close = .12). See Table 19 for the parameter estimates and accompanying statistical significance associated with these post-hoc tests.

Aim III. The third aim of the project was to examine the effects of improved parenting on parent well-being using a model of cascading time-ordered effects. It was expected that early parenting improvements would predict subsequent parent performance, leading to improvements in long-term parent well-being. It was hypothesized that this effect would be moderated by parental self-efficacy. As noted above, parental self-efficacy was not collected for pilot families ($n = 10$), and with additional data lost due to longitudinal attrition, there were only 68 cases with full data including parental self-efficacy. As this was deemed too small a sample size to support path analysis, parental self-efficacy was dropped from analyses. The initial model included Wave 2 and Wave 4 Encouragement, Wave 3 Parenting factor score, and Wave 5 Mental Health factor score. See Figure 9 for the structural model developed to test this aim. This model was an extremely poor fit for the data ($\chi^2(3, N = 103) = 53.55$, $p < .005$;

CFI = .12; TLI = -1.94; RMSEA = .41, p-close < .01). The developmental cascade

hypothesis was unsupported – parenting did not predict long-term mental health. Despite

the poor fit, parameter estimates and statistical significance are reported in Table 20.

As the initial hypothesized model was such a poor fit to the data, post-hoc models

of greater complexity were developed to further explore this aim. The next model

examined effects of Wave 2 and Wave 4 Encouragement and Wave 3 Parenting on Wave

5 Mental Health (see Figure 10). This model was a much better fit to the data (χ^2(1, $N =$

103) = .476, p = .49, CFI = 1.0; TLI = 1.1; RMSEA = .00, p-close = .54). This model

offered partial support for a developmental cascade hypothesis. In this model, Wave 2

Encouragement predicted higher Wave 3 Parenting, and higher parenting scores at Wave

3 predicted better mental health at Wave 5. Wave 4 Encouragement, however, was

unrelated to Wave 5 mental health. See Table 21 for parameter estimates and

accompanying statistical significance. The indirect effects of this model were also tested,

using a reduced sample with no missing data. This test did not indicate any statistically

significant indirect effects of Wave 2 Encouragement on Wave 5 mental health.

To better examine the cascading effects of early parenting and mental health on

long-term mental health, a final model was created that included Wave 2 and Wave 4

Encouragement as well as Parenting and Mental Health factor scores for both Wave 3 and

Wave 5 (see Figure 11). This model also was an excellent fit to the data (χ^2(3, N = 103) =

3.21, p = .36; CFI = 1.0; TLI = .92; RMSEA = .03, p-close = .47). In this model, there is

moderate support for the hypothesis that, over time, effective parenting may help increase

parent mental health (or that ineffective parenting may decrease parent mental health).

Encouragement predicts parenting from both Wave 2 to Wave 3 and from Wave 4 to

Wave 5. Although Wave 3 Parenting was unrelated to Wave 3 Mental Health, there was a

trend towards statistical significance for Wave 3 Mental Health related to Wave 5

Parenting, such that higher mental health distress scores predicted lower parenting scores.

Unlike Wave 3, at Wave 5 better parenting was related to better mental health. See Table

22 for the parameter estimates and accompanying statistical significance. The indirect

effects of this model were also estimated, again using a reduced sample size with no

missing data. This test did not indicate any statistically significant indirect effects of

Wave 2 Encouragement on Wave 5 mental health.

      Post hoc examination of TX vs SAU group differences in this model with all

cases included indicated differences between these two groups, but model fit was poor

(χ^2(6, $N = 103$) = 18.23, $p = .01$; CFI = .93; TLI = .50; RMSEA = .14, p=close = .02). For

the TX group, the only statistically significant parameter estimate was Wave 2

Encouragement predicting Wave 4 Encouragement, although there were marginally

significant effects of Wave 2 Encouragement on Wave 3 Parenting and on Wave 5

Mental Health. Similar to the TX group, for the SAU group, Wave 2 Encouragement

predicted Wave 4 Encouragement. Unlike the TX group, however, Wave 2

Encouragement also predicted Wave 3 parenting, and had a marginally significant effect

on Wave 3 Mental Health. See Table 23 for the parameter estimates and accompanying

statistical significance.

CHAPTER IV

DISCUSSION

Despite the important links between parent well-being, parenting practices, and child well-being, there is a paucity of research on Child Welfare Services (CWS)-involved parents, particularly after children have been reunified from out-of-home care. The preponderance of research on well-being within CWS-involved families is on the well-being of children (Bellamy, 2008; Lau et al., 2003; Taussig et al., 2001). The purpose of the current study was to better understand family functioning once children are reunified with their parents, focusing on parents' experience from a socio-ecological perspective. The current study benefited from several characteristics, including the longitudinal and comprehensive nature of the data, and the focus on family functioning after reunification from foster care.

Findings from the current study add to the general knowledge base regarding family function, and contribute uniquely to the understanding of families who are reunited after foster care. As such, in some cases, findings from the current study are congruent with available research, including the importance of social support (e.g., Bronfenbrenner, 1986; Cochran & Brassard, 1979; Simons et al., 1993). Also consistent with previous findings (e.g., Coleman & Karraker, 2000; Erdwins et al., 2001), there was modest evidence to support the importance of improved parenting on parental well-being, and an indication that this may be of particular significance after the early stages of reunification. However, there are also findings from the current study which are inconsistent with most previous studies of this population (e.g., that ongoing treatment

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for substance use problems and mental health may not have the expected positive effects).

Hypothesis Testing

        Substance use as a contextual factor. The first aim of the project was to investigate substance use as a contextual factor that may have an influence on distal outcomes with this population. It was hypothesized that baseline substance use risk would predict lower levels of maternal well-being at Wave 3 and Wave 5. This hypothesis was not supported. It was also hypothesized that substance use treatment would predict improved well-being. This hypothesis was not supported. At Wave 3, post-reunification treatment was unrelated to Wave 3 mental health. However, at Wave 5, mothers who had received treatment since their Wave 3 interviews were more likely to have poorer mental health scores, rather than better scores. Additionally, there was a trend towards a statistically significant interaction between baseline Substance Use Risk and Wave 5 Substance Use Treatment, such that mothers with higher risk who had received recent treatment continued to have poorer mental health scores. Post-hoc analyses of Wave 5 data in isolation revealed that for the mothers who were continuing treatment 12 months after baseline ($n = 22$), those with higher baseline risk had the poorest mental health scores.

        This set of findings, which is inconsistent with previous findings (e.g., Marsh et al., 2006; Porowski et al., 2004; Stromwall et al., 2008) may indicate that, for many mothers, the potential effect of baseline substance risk on mental health may have already been mitigated by treatment received prior to baseline. At baseline, 79% of mothers had received substance use treatment in the past year, and at Wave 3 (approximately 6

months later) 46% had received treatment since their children had returned home (with only one mother reporting first-time treatment, as opposed to continuing treatment). At Wave 5, only 23% of mothers were receiving treatment. Many mothers must undergo substance use treatment as part of a reunification plan, and for mothers who have low- to medium-risk profiles, this treatment may be adequate. These mothers may still be benefitting from the residual effects of that treatment. For high-risk mothers, although there may not have been evidence of the benefits of substance use treatment on well-being, there may be benefits on parenting. In fact, continued substance use treatment can be a predictor of reunification success (e.g., Miller et al., 2006).

The negative effects of substance use risk on mental health may be ameliorated early in the treatment process, but not for mothers who continue to need treatment 12 months after initial risk assessment. For mothers with high risk, it appears that over time (i.e., from Wave 3 to Wave 5), the influence of that baseline risk on mental health remains, despite continued treatment. It could be that without treatment, mental health for these mothers would be even lower. Alternatively, and somewhat paradoxically, continued substance use treatment might be considered a risk factor for poor mental health. This finding also might be an indicator of reduced coping skills, in that substance use can be seen as a maladaptive coping mechanism. As families settle into the management of daily life (and the "honeymoon period" of reunification wears off), daily stressors likely increase, and with reducing coping skills, mental health is likely to suffer. Considering the potential effects of mental health treatment on well-being, a post-hoc analysis revealed that there were no associations between substance use risk, maternal mental health, and treatment for mental health problems.

In regards to the creation of the parental well-being latent variable, it is disappointing but not surprising that the drug and alcohol craving scales were a poor fit to the measurement model. This resulted in a well-being construct that was reduced to psychological well-being indicated solely by measures of depression and anxiety. For most of the mothers in this study, substance use was a significant factor in the removal of their children. There is certainly inherent risk for these mothers in the endorsement of substance use, to the extent that the original study modified its measurement to indicate cravings rather than usage. Even with this modification, many mothers may have been reluctant to endorse items regarding substance use, fearing it may trigger a CWS report. Nevertheless, reporting rates were non-zero for cravings in the current study (see Table 7 for descriptive statistics). Thus, reported cravings may have had clinical significance despite their lack of fit to the current model.

Family environment as a contextual factor. This second aim was to investigate parenting within the context of the family environment. It was hypothesized that baseline family chaos would predict lower levels of parenting skills at Wave 3 and Wave 5. Contrary to previous published research (e.g., Coldwell, Pike, & Dunn, 2006; Corapci & Wachs, 2002), this hypothesis was not supported. It was also hypothesized that social support would predict improved parenting. Consistent with previous findings about the importance of social support (e.g., Bronfenbrenner, 1986; Cochran & Brassard, 1979; Simons et al., 1993), there was mild support for this hypothesis in that there was a trend towards statistical significance at both Wave 3 and Wave 5. It also was hypothesized that social support would buffer the effects of baseline family chaos on parenting skills. This hypothesis was not supported, which is consistent with mixed findings in the literature

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(e.g., Antonucci & Jackson, 1990; Bott, 1971; Lepore, 1997). Additionally, it was originally hypothesized that a history of partner violence at baseline would predict poorer parenting. However, as reported above, there was no variance in the data. Responses to this variable were either positive for partner violence, or missing, with no data reported. As this variable did not offer any meaningful statistical contribution to the model, it was dropped from further analyses.

Considering this set of findings, it may be that social support marshaled by these families during early reunification (the first 8 months) may allow parents to dedicate their scarce instrumental and psychological resources towards parenting. Unfortunately, it is unknown how chaotic the home environment might have been post-reunification, as these data were not collected. It also could be that the presence of social support decreased the level of family chaos at Wave 3 and/or Wave 5 for these families, which in turn allowed for better parenting. One variable associated with the family chaos construct is multiple parental figures. For some families, this might also represent increased social support. However, mothers in this situation may have fewer opportunities to employ parent skills their children, instead relying on the support of others to perform this function. A closer examination of type of social support may help to better understand the interaction between these variables.

A post-hoc between-groups examination of this structural model revealed differences in when the presence of social support predicted better parenting. In fact, these differences may have been the reason that, in a model with all participants, social support as a predictor did not achieve statistical significance. For families in the control group (SAU), early social support (measured at Wave 3) predicted better Wave 3

parenting, but was not predictive at Wave 5. For families in the Pathways Home study (TX), Wave 3 support was not predictive of Wave 3 parenting, but Wave 5 support did predict better parenting at Wave 5. These families did not differ on the level of perceived social support, but on when it best predicted parenting improvements.

Increasing social support is one of the goals of the Pathways Home intervention, and it is presented late in the first phase of treatment (but still before the collection of Wave 3 data). During phase two of treatment, intervention is tailored to meet each family's needs, and thus focuses on resolving new challenges and reinforcing previously learned skills. It may be that for non-treatment families, social support is more important early in the reunification process as they do not have the benefits of the multiple types of support provided for treatment families, and less important later in time because they have already derived maximum possible benefit on parenting skills. For treatment families, the potential benefits of social support on parenting may not be evident until other instrumental and psychological supports provided by the intervention are removed.

Parenting and well-being. The third aim of the project was to examine the effects of parenting on well-being using a model of cascading time-ordered effects. It was hypothesized that early parenting improvements would continue to predict improved parenting, which would then have a positive effect on long-term parent well-being. It also was hypothesized that this effect would be influenced by parents' perception of the efficacy of their parenting behaviors. As noted above, parental self-efficacy had to be dropped from analysis due to missing data, and the well-being construct was reduced to psychological well-being. There was partial support for the hypotheses associated with this aim.

The initial model associated with this aim indicated extremely poor model fit, as reported above. A number of different reasons could explain the lack of fit. It may be that the data are simply unrelated in the hypothesized way (e.g., parenting predicting mental health, as opposed to mental health predicting parenting). It also may be that the small sample size reduced the likelihood that there would be enough data available to properly fit the model. Another potential explanation is that specific constructs within parenting and mental health are more directly related, but that when these constructs are combined into a latent variable factor score, the associations become non-significant.

To further investigate potential links between parenting and mental health, two increasingly complex structural models were tested. In the second model associated with this aim, there was partial support for the hypothesis that, consistent with previous findings (e.g., Coleman & Karraker, 2000; Erdwins et al., 2001), improved parenting predicts improved parental mental health. In this model, a much better fit to the data, better early parenting (Wave 2 and Wave 3) predicted better mental health at Wave 5. However, Wave 4 parenting (i.e., Parent Daily Report [PDR] Encouragement) was not related to Wave 5 mental health. The predictive power of early parenting improvements as opposed to later improvement may be an indicator that if parents are able to do well close in time to reunification, when it can be argued that the family is under the stress of re-adjusting to family life, this might help families manage stress better later in time. That is, there may be a sensitive period during which parenting is more important to the long-term well-being of parents.

A final structural model was created to better investigate the interplay between parenting and mental health, and thus both constructs were included for Wave 3 and for

Wave 5. This model also was an excellent fit to the data and provided increasing support for the effects that parenting skills can have on mental health. In this model, the use of encouragement predicted better parenting, as expected. However, the use of encouragement did not predict improved mental health. In fact, close in time to reunification, it appears that the association between parenting and mental health is weak. This may be due to a number of factors, including the early influence of social support (e.g., Armstrong, et al., 2005) or perhaps families tolerating stress better due to positive factors associated with reunification. However, over time, the link between parenting and mental health becomes stronger. This may represent a potential bimodal distribution in terms of families who are able to recover from having children removed and families who return to maladaptive coping mechanisms.

Clinical and Public Policy Implications

In the current study, mothers who were at the highest risk of substance use at baseline, and who were in continuing substance use treatment 12 months from that time, reported the poorest mental health. This is a striking finding, in that continued substance use treatment does not seem to be improving psychological well-being for these mothers. Although the current study did not further investigate type of substance use treatment due to low sample size, for these high-risk mothers it is clearly important to identify effective interventions. It would be helpful to be able to match type of intervention to level of risk.

It is also of clinical interest that mental health treatment was not associated with maternal mental health in this study. It may be that mothers involved with the CWS who have recently reunited with their children are more concerned with meeting basic needs and re-establishing connections with their children than they are about their own mental

health. Additionally, this effect may have the greatest magnitude for those mothers who are at the highest risk. Further study of the interaction between mental health and substance use cravings, as well as the validity of measuring self-reported cravings (rather than urine tests or other non-subjective physiological measures of substance use) is warranted. For example, in this study, increased alcohol cravings were correlated with decreased mental health, but this was not true for reported drug cravings. It may be that, indeed, drug cravings and mental health are unrelated. It also may be, however, that mothers see alcohol as less stigmatizing (and certainly it is less illegal) and thus are more likely to honestly self-report alcohol cravings versus drug cravings.

There was no direct link in the current study between family chaos at baseline and effective parenting. However, there was evidence to support the assertion that social support is an important contributor to parents' ability to be effective parents. There are some interventions with DHS-involved families that are designed to help parents increase the mobilization of appropriate social support (e.g., Pathways Home; DeGarmo et al., 2013). There is also evidence, reviewed above, that social support can be helpful for families under stress in general. It may be in the best interests of the CWS, then, to work with families after reunification to bolster social support, and to include a short measure of this construct in their follow-up evaluations of these families. The lack of a direct link between family chaos at baseline and parenting at 6 and 12 months may indicate that helping parents marshal and maintain social support, in turn helping parents meet daily the family's daily needs, will have a greater effect on parenting (and thus, the home environment) than imposing expectations about reducing chaos within the home. This does not reduce the importance of providing a more stable, less chaotic environment for

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children, but instead focuses on the important contributions that social support may make towards the ability of these families to use effective parenting strategies. The increasing predictive power of social support on parenting over time also points to the importance of helping parents successfully implement this skill.

Family chaos, as measured in the current study, also could be, at least in part, a reflection of social support. For example, multiple transitions in parental figures may be perceived as a negative and chaotic experience for children. On the other hand, it may be those very things that, from a parent's perspective, are providing social support (e.g., unstable housing and/or transitions in parental figures could translate in practice to children spending the night with relatives, and giving parents respite.) There remains evidence that a chaotic home environment can be detrimental to children (e.g., Coldwell et al., 2006), but this was not tested in the current study. It may be that increasing social support can lead to more effective parenting, which also can lead to increased child well-being. It is unknown how parenting, social support, and a chaotic home environment interact to produce effects on children's well-being.

Structural models tested in the third aim offered modest support for the hypothesis that improved parenting affects parental psychological well-being. Considering the phenomenology of parenting, this makes sense. Parents whose children have been removed receive the message that they are inadequate as parents. For many people, this is likely to negatively influence psychological well-being. Particularly for these parents, if they are able to develop and maintain better parenting strategies, it is likely to have a significant impact on how they feel about themselves. This effect is probably tied to individual differences, such as reason for removal, identification with the parent role, etc.

As reviewed above, there are clear links between parental well-being and parenting ability. However, it also is important to note that, at least within this sample, there was no association between mental health treatment and improved mental health. There were associations between improved parenting and improved mental health. Additionally, examinations of specific parenting and mental health variables showed associations (e.g., both depression and anxiety were negatively correlated with parental positive feelings towards child). Thus, at least for this this population, it may make more sense, and have a greater impact, to focus primarily on helping mothers improve their parenting skills, and then secondarily on mental health treatment.

Regarding correlations between PDR Encouragement and parenting variables, it is interesting that a single variable, the use of encouragement over time, may be able to predict better parenting overall, including strategies such as appropriate monitoring and a decrease in ineffective parenting (e.g., threatening a consequence but not following through), as well as qualitative aspects like having positive feelings about one's child and having more conversations. This variable is derived from one question on the PDR (i.e., *In the last 24 hours, did you use encouragement?*), and thus could serve as an extremely easy-to-use temperature gauge of family functioning. It may be particularly useful for CWS-involved families, who by definition have had parenting difficulties, and likely are under considerable stress. It can be much more difficult to use an encouragement strategy rather than a punishment strategy, and thus indicators of encouragement use may function as indicators of the ability to parent well despite stressful experiences or environments. One interesting finding of note is the fact that a specific parenting construct (e.g., use of encouragement as measured by PDR) increased over time for families in the treatment

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group, but declined for families in the control group. This serves to support the continued efforts towards implementing post-reunification interventions for this population.

Overall, this study provides modest support for the importance of continued interaction with families after reunification, both in terms of service provision and prevention and intervention efforts. Although intervention effects were not the primary focus of the current study, there was evidence that the intervention increased mothers' use of encouragement, and encouragement, in turn, predicted other positive outcomes. Additionally, for at least a subset of mothers, continued struggles with substance use months after reunification indicate the need for empirically-supported long-term interventions and assessment of family well-being. In general, the farther out from reunification, the fewer services are provided and/or mandated to families (e.g., Bronson, 2005; Courtney, 1995; Needell, et al., 2013; Smith, n.d.; Wulczyn, 2004). It may be that services are reduced when at-risk parents are experiencing the greatest need for parenting support. The current study provides data which lend support to the consideration of changes in public policy and practice. These changes might focus on long-term service provision for the highest-risk mothers, particularly in the form of empirically-supported parenting practices and continued skill-building in the development of social support.

Limitations and Future Directions

Although it provided interesting preliminary results, the current study has several limitations. The first of these is sample size. Conservative estimates state that for each parameter estimated using SEM, one should have 10-20 participants (meaning, 16 parameter estimates should use data from at least 160 participants; Jackson, 2001). The current study had, at its highest rate of participation, only 103 participants. It is very

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likely that many of the non-significant findings in the current study are due to a lack of power to detect effects. The decision to collapse the treatment and control groups was made in part in an effort to increase power.

Although there were very few differences on study variables between the two groups, the fact that these two groups of parents had distinctly different experiences should be noted. There may have been unmeasured or unaccounted for ways that group membership affected the current study. Despite the small sample size, the study is one of the larger investigations of post-reunification family functioning. As such, it certainly serves as a proof-of-concept that it is possible to provide treatment and retain participants in a longitudinal study with this population. Future studies should increase sample size and identify ways to further retain participants. Another limitation of the data was its multivariate non-normality. Mardia's coefficients (Mardia, 1970) for the structural models in all three aims indicate that the data are highly kurtotic when examined in a multivariate analysis. This high degree of kurtosis, particularly when combined with small sample size, could lead to biased p-values when computing the Chi-squared fit statistics for the structural models (Anderson & Gerbing, 1984; Boomsma, 1983).

In addition to small sample size, the study also is limited by homogeneity within the sample. There is a well-documented association between IPV and DHS-involved families, as reported above. This was also true for the current study, in that a history of IPV was either certain or probable for all mothers for whom there was data on this variable. Although sample characteristics such as these are congruent with published data on this population, it would have been enlightening to be able to identify potential effects of an IPV history on long-term family functioning. In addition, there was no data

available about how recent in time IPV had occurred, which also might influence both parenting skill and well-being. Future studies should continue to examine the effects an IPV history might have on families reunited after foster care.

The high degree of ethnic homogeneity within the sample also limits this study. Despite the fact that the ethnic make-up of the sample was representative of the population from which it was drawn, a lack of variation in race and ethnicity reduce the generalizability of this study. It is likely that variables within the study would be influenced by culture, race and ethnicity. As such, an important step in this line of research would be replicating the study of post-reunification family functioning within a sample that had increased variation across a number of demographic characteristics.

Another limitation of the current study is the archival nature of the data. The original principal investigator for this study was deceased and thus was unavailable to discuss details of the current study (e.g., how some variable might have been scored, etc.). Other employees of the non-profit research organization to which the PI belonged were available to answer some of these questions, but there may have been some loss of knowledge with the loss of the PI. Due to this, at times assumptions were made based on best available information about what specific variables represented (e.g., when creating the Family Chaos construct, I used variables from the DHS case reports, but there was not a codebook which detailed exactly how some item was coded as yes or no from the case file to the database). For example, in the current study, parent responses were already coded into type of discipline and type of encouragement. Although reasonable conclusions could be drawn about some items (e.g., differences between verbal and physical behaviors), it was not possible to accurately classify other parent behaviors (e.g.,

whether ignoring a child behavior in a certain instance would be considered effective or ineffective parenting). In those cases, ambiguous variables were removed from analysis, increasing face validity but decreasing variability and power. It may be that there is more detailed archival information about the current study. It is a rich dataset and merits further investigation.

This study also is limited by the fact that the PDR was only collected for approximately 16 weeks in Wave 2, and for 8 weeks in Wave 4. There were no PDR data directly associated with the measures taken at Waves 3 and 5, nor was data collected from foster families prior to reunification. Having continuous PDR data would have provided the ability to contrast foster parent responses with biological parent responses, for example. Additionally, had PDR data been collected during Waves 3 and 5, direct associations between major assessment measures and PDR data could have been investigated. It is now possible for parents to complete PDR data (and many other measures) online, which could provide a more detailed picture of the changes in parent and child behaviors over time. Of course, this benefit would have to be measured against the impossibility of ensuring that the respondent to any online measure is who he or she reports to be.

The self-report nature of the data is another limitation to the current study. Other than information gathered from DHS case files, all data were provided via parent self-report. Although some measures were completed solely by the parent (e.g., BSI) and others were completed by responding to a trained interviewer (e.g., PDR and Parent Interview), it remains that all the information gathered is colored by the perspective of the responding parent. It is important to note that these parents had been involved in the

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child welfare system, and their children had been removed from their care. It stands to reason, then, that to some extent, there is likely to be an effect of social desirability bias. This response bias is most likely to be evident when parents are responding to items that are clearly linked to potential referrals to the child welfare system (e.g., strong endorsement of substance use cravings; the use of physical punishment; supervisory neglect, etc.). Therefore, it may be that the data in general are susceptible to under-reporting of any construct that may be perceived by parents to cast them in a negative light. Although parents were assured of privacy and confidentiality, these assurances may or may not have been effective for this population. Future studies should include objective measures of parent-child interactions (e.g., coded video of families completing tasks) rather than relying solely on self-reported behaviors.

Another limitation to the dataset is the lack of variables which could be construed as components of well-being. As noted above, drug and alcohol cravings could not be included in the models due to poor fit. Additionally, there were no direct measures of parental stress available. Future studies should include measures of well-being across a number of different constructs, including both physical and mental health. In the current study, only psychological well-being is measured, and it is only represented by indicators of depression and anxiety.

Additionally, the reciprocal nature of parent-child interactions, and the effect of that relationship on child well-being, is not directly tested in the current study. As reported above, there is a strong body of evidence that parents and children influence each other's behaviors. It is likely that children's mental health and well-being influence that of their parents and vice-versa. Future studies should test the ways in which these

constructs (well-being and behavior for both parents and children) interact, in what is likely a complex system. Testing the effects that contextual factors (e.g., social support) have on family functioning also could provide critical insight into which services are best-suited for post-reunification families. It also is unfortunate that there was not full data included on a measure of parental self-efficacy. As discussed above, parental self-efficacy could mediate or moderate the relationship between parent behaviors, child behaviors and parental well-being. Including a short measure of self-efficacy in the PDR, for example, would provide detailed data on these interactions, and allow for testing of associated hypotheses.

A final limitation of the study is that fathers were not included in the analysis due to a lack of data. Of the 103 families, none had complete two-parent data at any single time point. Fathers and mothers may perceive their children's behaviors differently, they may have different experiences of parenting, and they may exhibit differences on measures of well-being. Better understanding the role that fathers play in the lives of children who are reunited after foster care is likely to provide critical information about how to better support these families. In fact, the Office of Planning, Research and Evaluation (OPRE) recently published a grant announcement designed to fund scholarship on responsible fatherhood (OPRE, 2015).

Conclusion

This study used the Pathways Home dataset to investigate associations between parenting and well-being in families reunited after foster care. A conceptual model of family functioning was proposed, and structural models were developed to begin testing this model. There appears to be support for the hypothesis that, for this population, better

parenting predicts better long-term parent well-being. A number of important contextual factors also were identified, and provide support for treating DHS-involved families from a multi-dimensional perspective. The data suggest that, in particular, both social support and improved parenting have positive effects on family functioning in this population. Examining current practices and public policy, which tend to emphasize treatment for substance use and mental health problems, rather than post-reunification parenting support, may provide great benefit to this vulnerable population.

TABLE OF MEASURES USED IN PATHWAYS HOME STUDY

Pathways Home Study Assessment Measures	Wave			
	W1: Baseline	W2 & 4: Tx	W3: 6 Mos	W5: 12 Mos
Alcohol and Drug Craving Quest. (Flannery, et al 1999)	•		•	•
Brief Symptom Inventory (Derogatis & Spencer 1982)	•		•	•
Case Update			•	•
Center for Epidem. Studies Depr. Scale (Radloff, 1977)	•		•	•
Child Behavior Checklist (Achenbach 1991)	•		•	•
Child Interview			•	•
Child Interviewer Impressions			•	•
Child Services Interview	•		•	•
Child Welfare Records	•		•	
Children's Reinf. Survey (Clement & Richard 1976)			•	•
Demographics A, B, C	•		•	•
Experiences Questionnaire (Selner & Knutson 1990)			•	•
Family Activities List			•	•
Family Events Checklist (Patterson 1982)	•		•	•
Fathering Options (Fox & Brusc 2001)	•			•
Health History (child)	•		•	•
Health History (parent)	•		•	•
Home Visitor Impressions	•			
Intervention Checklist		•		
Life Events (Holmes & Rahe, 1967)	•		•	•
Monitor and Parent/Child Relationship Questionnaire			•	•
Official Court Records				•
Parent Daily Hassles			•	•
Parent Daily Report		•		
Parent Interview			•	•
Parent Interviewer Impressions	•		•	•
Parent Services Interview	•		•	•
Picture Questionnaire	•		•	•
Problem Solving Rating			•	
Process of Change Quest. (Littell & Girvin (2005)	•		•	•
Relationship Behaviors (Straus, et al. 1996)	•		•	•
School Records			•	•
Seattle Personality Inventory (Kusche, et al. 1988)			•	•
Self Perception (Messer & Harter 1986)	•			
Session Outcome		•		
Social Support (Sherbourne & Stewart 1991)	•		•	•
Spielberger Anger Scale (Spielberger, et al 1983)			•	•

Pathways Home Study Assessment Measures	Wave			
	W1: Baseline	W2 & 4: Tx	W3: 6 Mos	W5: 12 Mos
Teacher CBCL (Achenbach & Edelbrock 1983)			•	•
Teacher Peer Social Skills (Walker & McConnell 1988)			•	•
Techniques for Parents	•	•	•	•
Traumatic Stress Interview (Norris 1990)	•		•	•

PARENT SERVICES INTERVIEW

Interviewer Introduction:

All families need support from professionals in the community from time to time. These questions are about the kind of support you have received for problems that adults sometimes have.

Interviewer: For questions #1-11, ask A - C when applicable.

A.   Where did you go or whom did you see about this? (Record up to 3 responses. If more than 3, record the 3 that were seen the most often.)

1.   Mental health professional/Facility *(psychologist, psychiatrist, counselor, outside evaluator, mediator, **social worker**, Psychiatric facilities)*

2.   Medical Professionals/Facility *(MD, nurse, nurse practitioner, hospital/clinic)*

3.   School Personnel *(school counselor, school psychologist, teacher, other school personnel - includes principal)*

4.   Police/Law Enforcement Facility *(PO, Detention, Court Mandated treatment))*

5.   Clergy *(any religious professional or organization - includes churches & church classes)*

6.   Support Group/Skill Building Classes *(Anger Mgmt Class, Birth to Three Par Group, Relief Nursery, CAFA)*

7.   Other *(Tutor, naturopath/homeopath, acupuncturist, massage therapist, any alternative medical or mental health professional, or **lawyer** - does **not** include family or friends)*

B.   How helpful was it for you to see [support service]?

Not at all	A little	Somewhat	Very much
1	2	3	4

C.   Did you receive any medication for this problem?

        1 = yes   2 = no

1. Since your child came home, have you been to someone to get help with <u>depression or stress</u>?
   1 = yes 2 = no

        (if yes, answer A-C, if no, then go to next question)

A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2   3   4
A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2   3   4
A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2   3   4

C.   Any medication?   1 – yes   2 – no

2. Since your child came home, have you been to someone to get help with <u>any other mental health problem (anxiety, phobia, etc.)</u>?   1 = yes 2 = no

        (if yes, answer A-C, if no, then go to next question)

A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2   3   4
A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2   3   4
A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2   3   4

C.   Any medication?   1 – yes   2 – no

3. Since your child came home, have you been to someone to get help with <u>a child's behavior problems</u>?
    (Do not include Pathways Home Program)   1 = yes   2 = no
                     (if yes, answer A-C, if no, then go to next question)

     A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2 3 4
     A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2 3 4
     A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2 3 4

     C.   Any medication?   1 – yes   2 – no

4. Since your child came home, have you been to someone to get help with <u>parent training</u>?
    (Do not include Pathways Home Program)   1 = yes   2 = no
                     (if yes, answer A-C, if no, then go to next question)

     A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2 3 4
     A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2 3 4
     A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2 3 4

     C.   Any medication?   1 – yes   2 – no

5. Since your child came home, have you been to someone to get help with marital, couples or relationship
    problems?   1 = yes   2 = no
                     (if yes, answer A-C, if no, then go to next question)

     A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2 3 4
     A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2 3 4
     A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2 3 4

     C.   Any medication?   1 – yes   2 – no

6. Since your child came home, have you been to someone to get help with separation or divorce
    problems?   1 = yes   2 = no
                     (if yes, answer A-C, if no, then go to next question)

     A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2 3 4
     A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2 3 4
     A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2 3 4

     C.   Any medication?   1 – yes   2 – no

7. Since your child came home, have you been to someone to get help with problems related to physical
    abuse?   1 = yes   2 = no
                     (if yes, answer A-C, if no, then go to next question)

     A1.   Whom did you see?   1 2 3 4 5 6 7   B1. How helpful? 1   2 3 4
     A2.   Whom did you see?   1 2 3 4 5 6 7   B2. How helpful? 1   2 3 4
     A3.   Whom did you see?   1 2 3 4 5 6 7   B3. How helpful? 1   2 3 4

     C.   Any medication?   1 – yes   2 – no

8. Since your child came home, have you been to someone to get help with drug or alcohol problems?
1 = yes   2 = no
                    (if yes, answer A-C, if no, then go to next question)

A1.	Whom did you see?	1 2 3 4 5 6 7	B1. How helpful? 1 2 3 4
A2.	Whom did you see?	1 2 3 4 5 6 7	B2. How helpful? 1 2 3 4
A3.	Whom did you see?	1 2 3 4 5 6 7	B3. How helpful? 1 2 3 4

    C.   Any medication?   1 – yes   2 – no

9. Since your child came home, have you been to someone to get help with problems with the law?
1 = yes   2 = no
                    (if yes, answer A-C, if no, then go to next question)

A1.	Whom did you see?	1 2 3 4 5 6 7	B1. How helpful? 1 2 3 4
A2.	Whom did you see?	1 2 3 4 5 6 7	B2. How helpful? 1 2 3 4
A3.	Whom did you see?	1 2 3 4 5 6 7	B3. How helpful? 1 2 3 4

    C.   Any medication?   1 – yes   2 – no

10. Since your child came home, have you been to someone to get help with problems with gambling?
1 = yes   2 = no
                    (if yes, answer A-C, if no, then go to next question)

A1.	Whom did you see?	1 2 3 4 5 6 7	B1. How helpful? 1 2 3 4
A2.	Whom did you see?	1 2 3 4 5 6 7	B2. How helpful? 1 2 3 4
A3.	Whom did you see?	1 2 3 4 5 6 7	B3. How helpful? 1 2 3 4

    C.   Any medication?   1 – yes   2 – no

11. Since your child came home, have you been to someone to get help with any other problems?
1 = yes   2 = no
        Specify if yes: _____
                    (if yes, answer A-C, if no, then go to next question)

A1.	Whom did you see?	1 2 3 4 5 6 7	B1. How helpful? 1 2 3 4
A2.	Whom did you see?	1 2 3 4 5 6 7	B2. How helpful? 1 2 3 4
A3.	Whom did you see?	1 2 3 4 5 6 7	B3. How helpful? 1 2 3 4

    C.   Any medication?   1 – yes   2 – no

12. Was the help you received for any of these problems at a residential facility? (i.e., Did you reside at the facility for treatment?)
(Interviewer examples: Drug/Alcohol treatment facility, Mental Health Facility, Hospitalized for mental health, Family Crisis or Abuse Crisis Shelter (e.g. Women Space))

        1 – yes
        2 – no

        If Yes, please specify facility and length of stay.

APPENDIX C

SOCIAL SUPPORT QUESTIONNAIRE

1. About how many close friends and close relatives do you have (people you feel at ease with and can talk to about what is on your mind)?

<div align="right">___ ___ close friends and close relatives</div>

People sometimes look to others for companionship, assistance, or other types of support. How often

is each of the following kinds of support available to you if you were to need it?

	None of the time	A Little of the time	Half of the time	Most of the time	All of the time
2. Someone to help you if you were confined to bed. 1		2	3	4	5
3. Someone you can count on to listen to you when you need to talk. 1		2	3	4	5
4. Someone to give you good advice about a crisis. 1		2	3	4	5
5. Someone to take you to the doctor. 1		2	3	4	5
6. Someone who shows you love and affection. 1		2	3	4	5
7. Someone to have a good time with. 1		2	3	4	5
8. Someone to give you information to help you understand a situation. 1		2	3	4	5
9. Someone to confide in or to talk to about yourself or your problems................................. 1		2	3	4	5
10. Someone who hugs you. 1		2	3	4	5
11. Someone to get together with for relaxation. 1		2	3	4	5
12. Someone to prepare your meals if you were unable to do it for yourself. 1		2	3	4	5
13. Someone whose advice you really want. 1		2	3	4	5

People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you were to need it?

		None of the time	A Little of the time	Half of the time	Most of the time	All of the time
14.	Someone to do things with to help you get your mind off things.	1	2	3	4	5
15.	Someone to help with daily chores if you get sick.	1	2	3	4	5
16.	Someone to share your most private worries and fears with.	1	2	3	4	5
17.	Someone to turn to for suggestions about how to deal with a personal problem.	1	2	3	4	5
18.	Someone to do something enjoyable with.	1	2	3	4	5
19.	Someone who understands your problems.	1	2	3	4	5
20.	Someone to love you and make you feel wanted.	1	2	3	4	5

For the following items, please rate how satisfied you are with the amount and type of support or assistance you get in each of the following areas.

		Not at all satisfied	A little satisfied	Moderately satisfied	Very satisfied	Extremely satisfied
21.	Emotional Support (how you are comforted, how close you feel to someone, being able to confide in someone)	1	2	3	4	5
22.	Socializing (doing fun things, visiting in home)	1	2	3	4	5
23.	Practical Assistance (help with moving or other tasks, orrowing tools or equipment, and looking after children, pets or home)	1	2	3	4	5
24.	Financial Assistance (borrowing money needed for essentials or buying things like meals or clothes if you did not have enough money)	1	2	3	4	5
25.	Advice/Guidance (talking to someone when you are confused, provide useful information)	1	2	3	4	5

MONITOR AND PARENT-CHILD RELATIONSHIP QUESTIONNAIRE

In the past 4 months, how often has it happened that your child:

CIRCLE HOW OFTEN

		Very often	Quite often	Some-times	Hardly ever	Never
1.	Had to wait after school or at an activity without a parent figure because someone was late picking them up.	5	4	3	2	1
2.	Ended up walking quite a long way alone or just with other kids his/her age to get home or go someplace.	5	4	3	2	1
3.	Has gotten lost.	5	4	3	2	1
4.	Hurt themselves when out of adult eyesight and hearing.	5	4	3	2	1
4.	Broke or damaged something when out of adult eyesight and hearing (e.g., tipped over a paint can	5	4	3	2	1
6.	Has gotten upset because they thought they were left behind or had been forgotten by adults.	5	4	3	2	1
7.	Played out of adult eyesight and hearing by themselves.	5	4	3	2	1
8.	Played out of adult eyesight and hearing with other kids his/her own age.	5	4	3	2	1
9.	Played out of adult eyesight and hearing with older kids age 12 or older.	5	4	3	2	1

Note: Highlighted items were included in current study.

In the <u>past 4 months</u>, how often has it happened that your child:

CIRCLE HOW OFTEN

	Very often	Quite often	Some- times	Hardly ever	Never
10. Has gone places where you have asked him/her not to go.	5	4	3	2	1
11. Did not get medicine when s/he was supposed to because someone forgot to give it to him/her.	5	4	3	2	1

Thinking of the last 4 months, how many days of the week do you usually:

	Number of days
12. Talk to your child about plans for the coming day?	0 1 2 3 4 5 6 7
13. Talk to your child about what happened during the day?	0 1 2 3 4 5 6 7
14. Talk to your child about what happened at school	0 1 2 3 4 5 6 7 **n/a = 9**
15. Talk to your child about what is happening with his/her friends?	0 1 2 3 4 5 6 7

Thinking of the last 4 months, how much do you agree with the following statements about your child:

	Very much agree	Mostly agree	50/50	Mostly disagree	Very much disagree
16. It has been a pleasure to parent my child	5	4	3	2	1
17. It is difficult to be patient with my child	5	4	3	2	1
18. My child tries hard to please me	5	4	3	2	1
19. I get along well with my child	5	4	3	2	1
20. I enjoy spending time with my child	5	4	3	2	1

Note: Highlighted items were included in current study.

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APPENDIX E

PARENT DAILY REPORT

Day(s) of week for behaviors? 1 – M   2 – Tu   3 – W 4 – Th 5 – F 6 – S 7 – Su

I'm going to ask you about your child's behavior in the last 24 hours (**day of the week**), so please think about the entire 24 hour period. First, I'll read a list of things kids sometimes do and you can tell me if **(name)** did that behavior or not and whether it was stressful to you.

		0 – no	**1 – not stressful**	**2 – stressful**
1.	animal cruelty	0	1	2
2.	arguing	0	1	2
3.	backtalking	0	1	2
4.	bedwetting	0	1	2
5.	complaining	0	1	2
6.	daydreaming	0	1	2
7.	defiance	0	1	2
8.	depression/sadness	0	1	2
9.	destructiveness	0	1	2
10.	encopresis	0	1	2
11.	fearfulness	0	1	2
12.	fighting	0	1	2
13.	interrupting	0	1	2
14.	irritability	0	1	2
15.	jealousy	0	1	2
16.	lying	0	1	2
17.	nervous/jittery	0	1	2
18.	not minding	0	1	2
19.	pant wetting	0	1	2
20.	pouting	0	1	2
21.	school problems	0	1	2
22.	sexual behavior	0	1	2
23.	short attention span	0	1	2
24.	sleep problems/nightmares	0	1	2
25.	sluggishness	0	1	2
26.	stealing	0	1	2
27.	swearing	0	1	2
28.	teasing	0	1	2
29.	worried/anxious	0	1	2
30.	competitiveness	0	1	2
31.	truant	0	1	2
32.	irresponsibility	0	1	2
33.	used drugs/alcohol	0	1	2

34. runaway	0	1	2
35. crying	0	1	2
36. hyperactivity	0	1	2
37. tantrums	0	1	2
38. repetitive questions	0	1	2
39. whining	0	1	2
40. yelling	0	1	2

41. If you were to grade the day "A" thru "F", like in school, how would you grade the last 24 hours? 4 – A 3 – B 2 – C 1 – D 0 – F

42. Did you use any discipline in the last 24 hours? 1 – yes 2 – no
    If no, skip to #43.

42. a-d. What did you do? (Circle up to 4 responses)

1 – ignore/do nothing
2 – discuss problem/talk/
    lecture
3 – make him/her correct problem
4 – warn or threaten punishment
5 – time-out
6 – ground
7 – remove from situation/to room/
    bed/

8 – work/extra chores
9 – restrict privileges/lose points
10 – physical punishment
11 – don't know
12 – other _____
_____
_____

43. Did you give **(name)** any encouragement, rewards, or incentives? 1 – yes 2 – no
    If no, skip to #44.

43 a-d. What did you do? (Circle up to 4 responses)

1 – increased privileges
2 – special activity
3 – give money
4 – give points/stars on chart
5 – praise/talk/acknowledge
6 – thanked him/her

7 – hugs/kisses
8 – don't know
9 – other _____
_____
_____
10 – gave small tangible reinforcer
      (toy, treat, etc.)

44. How many hours was **(name)** at home in the last 24 hours without an adult or babysitter there? ____ ____ . ____ ____ hours

45. How many hours was **(name)** away from home alone or with friends without an adult or babysitter with him/her? ____ ____ . ____ ____ hours

APPENDIX F

PARENT INTERVIEW

Interviewer Introduction:

        Today's visit will take about two and a half hours. It will be similar to the visit we did right before (TC Name) came home. I'll start by doing an interview with you, then I'll ask you to look at some pictures of children and ask you what you would do if you were the parent of that child, next I'll have you fill out some questionnaires, and then we'll finish up by having you look at some pictures of children *again* but this time I'll ask you to think about whether your child has done any of the things you'll see in the pictures.

        I just want to remind you that everything you say or put down on paper is confidential. The only exception to this would be if we were to learn that someone has been abused or in danger of hurting themselves or others.   Other family members will not know how you answered these questions. We don't put any names on the forms, only numbers, so staff members handling the forms do not know the identity of the families. For some of the questions that I'll be asking today, I'll give you the response choices, for example, I may say that you can respond with "Not at all, a little, somewhat, or very much". For these types of questions you can choose the answer that best fits for you. Other times I'll ask you to answer questions in your own words. There are no right or wrong answers, as we know that families are all different and that there are many ways to raise kids today.

        Do you have any questions so far? Please feel free to let me know if you don't understand a question, or if you feel uncomfortable about answering a particular question.

[NOTE: Only Discipline section included for sake of brevity]

V. Discipline

This next section is about how parents deal with their child when their child misbehaves. There are lots of ways to manage children's behavior and we understand that parents differ in their strategies according to their beliefs. In this part of the interview, I'll be asking about how you deal with things when your child isn't doing what you want him/her to do and then I'll ask you about how you get him/her to do the things he/she is supposed to. Remember, all your responses are confidential. The only exception to this would be if we were to learn that someone was being abused or in danger of hurting themselves or others.

In the last two weeks, did you …….
66. give your child a time out?   1 – yes
     2 - no

67. give your child extra work chores because he/she did something he/she wasn't supposed to?
     1 – yes   2 - no

68. use a star chart or point chart?   1 – yes
        2 - no

69. give your child a reward or incentive for something he/she did?   1 – yes
        2 - no

For questions # 70-79, use the following scale:
        1 – never or almost never
        2 – occasionally
        3 – about half the time
        4 – frequently
        5 – always or almost always

70. If you ask _____ to do something and he/she doesn't do it, how often do you give up trying to get him/her to do it?

71. If you warn _____ that he/she will be disciplined if he/she does not stop doing something, how often do you actually discipline him/her if he/she does not stop?

72. How often does _____ get away with things that you feel he/she should have been disciplined for?

73. How often does _____ know how you will react when he/she has done something wrong?

74. If a consequence has been decided upon, how often do you change it based on _____'s explanations, excuses, or arguments?

75. How often do you feel that it is more trouble than it is worth to discipline _____?

76. How often do you get angry when you discipline _____?

77. How often do you have to threaten _____ with a consequence just so he/she will do something?

78. How often is _____ successful in getting around the rules you've set for him/her?

79. How often do you feel the discipline you use doesn't change _____'s behavior?

Note: Highlighted items were included in current study

APPENDIX G

TECHNIQUES FOR PARENTS

Below is a list of things parents do sometimes. Please indicate if you are doing any of these techniques and how well you think you are doing with them.

> 1 – I'm **not really doing this** right now
> 2 – I'm **not doing very well**
> 3 – I'm doing **OK**
> 4 – I'm doing **pretty well**
> 5 – I'm doing **really well**

1. Using routines and schedules with my child.	1	2	3	4	5
2. Encouraging my child and noticing the things he/she is doing well.	1	2	3	4	5
3. Using contracts (point charts, star charts, etc.) to teach my child new behaviors.	1	2	3	4	5
4. Setting limits with my child.	1	2	3	4	5
5. Staying out of power struggles with my child.	1	2	3	4	5
6. Helping my child to do well at school.	1	2	3	4	5
7. Supporting my child with his/her friendships.	1	2	3	4	5
8. Using a routine to solve problems with my family members.	1	2	3	4	5
9. Coping with stress in healthy ways.	1	2	3	4	5
10. Getting support from others.	1	2	3	4	5
11. Avoiding unhealthy relationships with adults.	1	2	3	4	5

ALCOHOL AND DRUG CRAVING SCALE

This questionnaire is about your thoughts and desire for alcohol and drugs. Please read each item and circle the number the best describes your craving <u>during the past week</u>.

Alcohol

1. During the past week <u>how often</u> have you thought about drinking or about how good a drink would make you feel?
   0 – Never (0 times in the past week)
   1 – Rarely (1 to 2 times during the week)
   2 – Occasionally (3 to 4 times during the past week)
   3 – Sometimes (5 to 10 times during the past week or 1 to times per day)
   4 – Often (11 to 20 times during the past week or 2 to 3 times per day)
   5 – Most of the time (20 to 40 times during the past week or 3 to 6 times per day)
   6 – Nearly all of the time (more than 40 times during the past week or more than 6 times a day)

2. At its most severe point, <u>how strong</u> was your craving during the past week?
   0 – None at all   **4** - Strong urge but easily controlled
   1 – Slight, that is a very mild urge   **5** – Strong urge and difficult to control
   2 – Mild urge   **6** – Strong urge, would have drunk alcohol
   3 – Moderate urge   if it were available

3. During the past week <u>how much time</u> have you spent thinking about drinking or about how good a drink would make you feel?
   0 – None at all   **4** – 90 minutes to 3 hours
   1 – Less than 20 minutes   **5** – Between 3 to 6 hours
   2 – 21 to 45 minutes   **6** – More than 6 hours
   3 – 46 to 90 minutes

4. During the past week <u>how difficult would it have been to resist</u> taking a drink if you had known a bottle was in your house?
   0 – Not difficult at all   **4** – Very difficult
   1 – Very mildly difficult   **5 –** Extremely difficult
   2 – Mildly difficult   **6** – Would not be able to resist
   3 – Moderately difficult

5. Keeping in mind your responses to the previous questions, please rate your overall <u>average alcohol craving</u> for the past week.
   0 – Never thought about drinking and never had the urge to drink
   1 – Rarely thought about drinking and rarely had the urge to drink
   2 – Occasionally thought about drinking and occasionally had the urge to drink
   3 – Sometimes thought about drinking and sometimes had the urge to drink
   4 – Often thought about drinking and often had the urge to drink
   5 – Thought about drinking most of the time and had the urge to drink most of the time
   6 – Thought about drinking nearly all of the time and had the urge to drink nearly all of the time

Drugs

The following questions refer to cravings for <u>any</u> illegal drug.

1. During the past week <u>how often</u> have you thought about using drugs or about how good it would make you feel?
   0 – Never (0 times in the past week)
   1 – Rarely (1 to 2 times during the week)
   2 – Occasionally (3 to 4 times during the past week)
   3 – Sometimes (5 to 10 times during the past week or 1 to times per day)
   4 – Often (11 to 20 times during the past week or 2 to 3 times per day)
   5 – Most of the time (20 to 40 times during the past week or 3 to 6 times per day)
   6 – Nearly all of the time (more than 40 times during the past week or more than 6 times a day)

2. At its most severe point, <u>how strong</u> was your craving during the past week?
   0 – None at all   **4** - Strong urge but easily controlled
   1 – Slight, that is a very mild urge   **5** – Strong urge and difficult to control
   2 – Mild urge   **6** – Strong urge and would have used a drug
   3 – Moderate urge   if it were available

3. During the past week <u>how much time</u> have you spent thinking about using drugs or about how good it would make you feel?
   0 – None at all   **4** – 90 minutes to 3 hours
   1 – Less than 20 minutes   **5** – Between 3 to 6 hours
   2 – 21 to 45 minutes   **6** – More than 6 hours
   3 – 46 to 90 minutes

4. During the past week <u>how difficult would it have been to resist</u> taking a drug if you had known it was available in your house?

   0 – Not difficult at all   **4** – Very difficult
   1 – Very mildly difficult   **5** – Extremely difficult
   2 – Mildly difficult   **6** – Would not be able to resist
   3 – Moderately difficult

5. Keeping in mind your responses to the previous questions, please rate your overall <u>average drug craving</u> for the past week.

   0 – Never thought about using drugs and never had the urge to use drugs
   1 – Rarely thought about using drugs and rarely had the urge to use drugs
   2 – Occasionally thought about using drugs, occasionally had the urge to use drugs
   3 – Sometimes thought about using drugs and sometimes had the urge to use drugs
   4 – Often thought about using drugs and often had the urge to use drugs
   5 – Thought about using drugs most of the time and had the urge to use drugs most of the time
   6 – Thought about using drugs nearly all of the time and had the urge to use drugs nearly all of the time

BRIEF SYMPTOM INVENTORY

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please circle the number to the right that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST WEEK INCLUDING TODAY.

During the past week, **how much were you bothered by...**	**Not at all**	**A little bit**	**Moderately**	**Quite a bit**	**Very much**
1. Nervousness or shakiness inside	0	1	2	3	4
2. Faintness or dizziness	0	1	2	3	4
3. The idea that someone else can control your thoughts	0	1	2	3	4
4. Feeling others are to blame for most of your troubles	0	1	2	3	4
5. Trouble remembering things	0	1	2	3	4
6. Feeling easily annoyed or irritated	0	1	2	3	4
7. Pains in heart or chest	0	1	2	3	4
8. Feeling afraid in open spaces	0	1	2	3	4
9. Thoughts of ending your life	0	1	2	3	4
10. Feeling that most people cannot be trusted	0	1	2	3	4
11. Poor appetite	0	1	2	3	4
12. Suddenly scared for no reason	0	1	2	3	4
13. Temper outbursts you could not control	0	1	2	3	4
14. Feeling lonely even when you are with people	0	1	2	3	4
15. Feeling blocked in getting things done	0	1	2	3	4
16. Feeling lonely	0	1	2	3	4
17. Feeling blue	0	1	2	3	4
18. Feeling no interest in things	0	1	2	3	4
19. Feeling fearful	0	1	2	3	4
20. Your feelings being easily hurt	0	1	2	3	4

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please circle the number to the right that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST WEEK INCLUDING TODAY.

During the past week, **how much were you bothered by...**	Not at all	A little bit	Moderately	Quite a bit	Very much
21. Feeling that people are unfriendly or dislike you	0	1	2	3	4
22. Feeling inferior to others	0	1	2	3	4
23. Nausea or upset stomach	0	1	2	3	4
24. Feeling that you are watched or talked about by others	0	1	2	3	4
25. Trouble falling asleep	0	1	2	3	4
26. Having to check and double check what you do	0	1	2	3	4
27. Difficulty making decisions	0	1	2	3	4
28. Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4
29. Trouble getting your breath	0	1	2	3	4
30. Hot or cold spells	0	1	2	3	4
31. Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4
32. Your mind going blank	0	1	2	3	4
33. Numbness or tingling in parts of your body	0	1	2	3	4
34. The idea that you should be punished for your sins	0	1	2	3	4

CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE

Circle the number for each statement that best describes how often you felt this way
<u>DURING THE PAST WEEK.</u>

	Rarely or none of the time (0-1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family and friends.	0	1	2	3
4. I felt that I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people disliked me.	0	1	2	3
20. I could not "get going".	0	1	2	3

APPENDIX K

SUMMARY OF PATHWAYS HOME INTERVENTION

Experimental intervention. Parents in the intervention condition will participate in a 2-phase intervention. During the first phase, parents attend 16 sessions once a week with a family consultant to learn parenting strategies and self-care routines. After the 16 sessions there is about a 2 month break for the parent practice the new skills. After the break parents will meet again weekly with the family consultant for eight more sessions. During these sessions the focus will be on relearning and/or problem-solving difficulties implementing the skills from phase 1 and developing strategies to insure long-term family safety and well-being. The family consultants are trained and supervised by Ph.D. clinicians with years of experience in OSLC interventions. Currently, the family consultants are Master's level social workers, one with extensive OSLC experience, one with extensive CWS experience. We intend to hire additional bi-lingual staff when we expand the Pathways Home program to Marion County. The content of the Pathways Home intervention is as follows:

Phase 1: Phase 1 of the Pathways Home Program is a sixteen week intervention focused on supporting parents as their children return home from foster care in an attempt to make the transition as smooth as possible and build a foundation for continued success in parenting. The intervention includes strategies to:

- Enhance parenting skills (encouraging cooperation, teaching new behaviors, setting effective limits, keeping track of child's behavior and whereabouts, and helping children to succeed at school),
- create a safe and nurturing environment for the child(ren)
- meet the demands of parenting and household management (managing stress, staying healthy, and getting appropriate support).

Session Outline
1. Getting Started: Current Situation, Strengths and Expectations
2. Daily Schedules and Routines
3. Encouragement and Cooperation
4. Tracking Cooperation/Requests and Directions
5. Teaching New Behaviors
6. Behavior Contracts
7. Limit Setting
8. Balance between encouragement and discipline
9. Promoting School Success
10. Promoting Positive Peer & Sibling Relationships
11. Staying on Track 1: Pre-teaching and Transitions
12. Staying on Track 2: Dealing with problems when they are small and avoiding power struggles
13. Problem Solving
14. Stress and Coping
15. Social Support
16. Progress, feedback and goals

Phase 2: The objectives of the eight sessions in Phase 2 are to:
- assess proficiency with skills from phase 1 and review/re-teach as necessary
- give information about risk of harm to family members, protective factors to minimize risk and develop a Family Protection Plan focused on the safety and well-being of family members.
- address any new challenges encountered since phase 1 and develop strategies for resolving them (such as: integrating new members into the family, preparing for adolescence, dealing with sibling conflict, etc.)

In phase 2, the curriculum is not sequenced as it is for the first phase, as in this phase the content of the sessions will be individually tailored to each family's needs. Part of each session will be oriented towards skill building and part will focus on insuring safety and well-being.

Services as Usual (SU) condition. Children and their families in the SU condition will receive all of the customary services provided by the local child welfare branch, which may include specialty mental health services and a variety of parent and child enrichment activities. A questionnaire will be used to measure the range and quantity of services youngsters and their families in the Experimental and SU conditions receive.
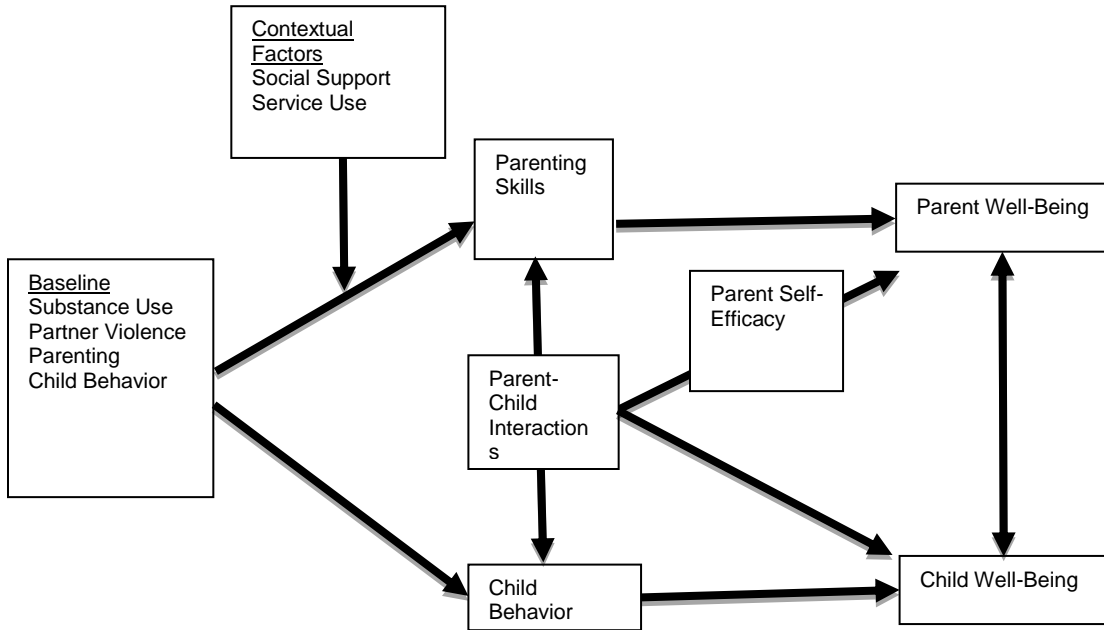
Figure 1. Proposed Model of Direct and Indirect Effects of Family Functioning on Well-Being

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Treatment          Phase 1 – 16 weeks              Phase 2 – 8 weeks

Month        0   1   2   3       4   5   6   7   8   9   10   11   12
Data Wave    W1      W2                      W3  W4                      W5
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Reunification occurs shortly after Phase 1 treatment begins for intervention condition. Wave 2 data collection begins for all families once reunification occurs.

Major assessment waves: ave , Wave 3, Wave 5
PDR Only waves: Wave 2, Wave 4
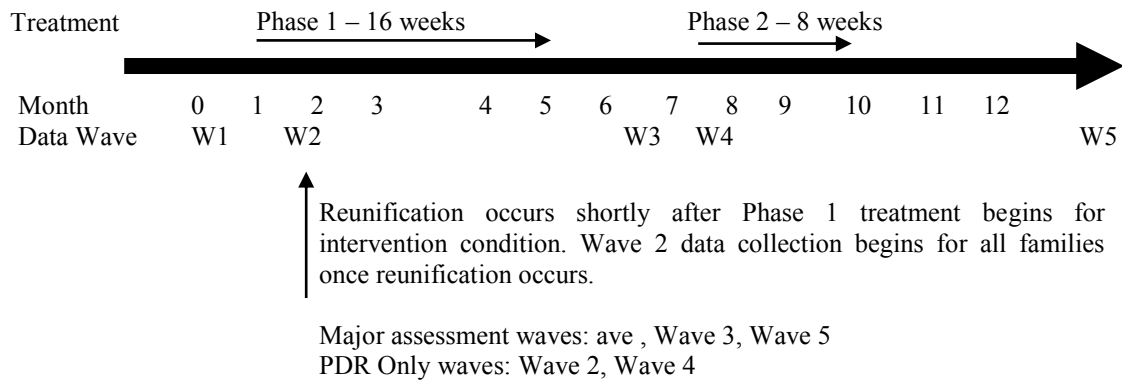
Figure 2. Treatment Phases and Data Collection Across Time
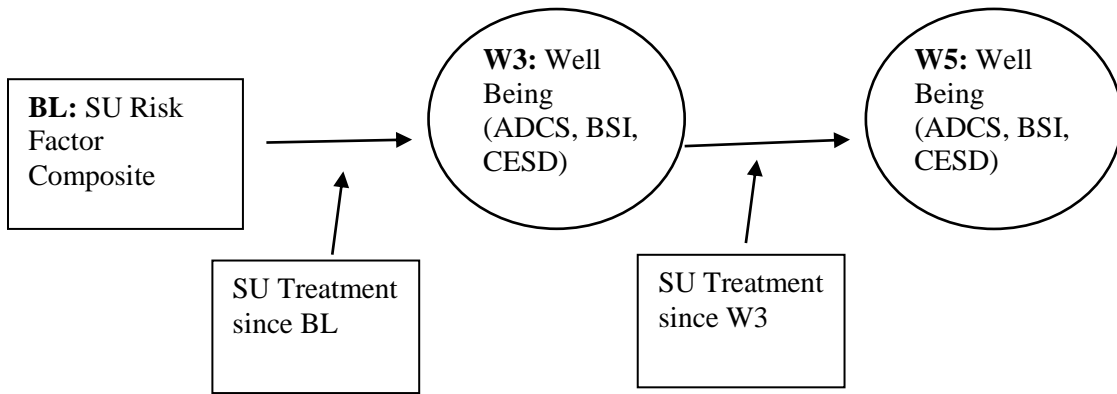
Figure 3. Hypotheses Associated with Aim I
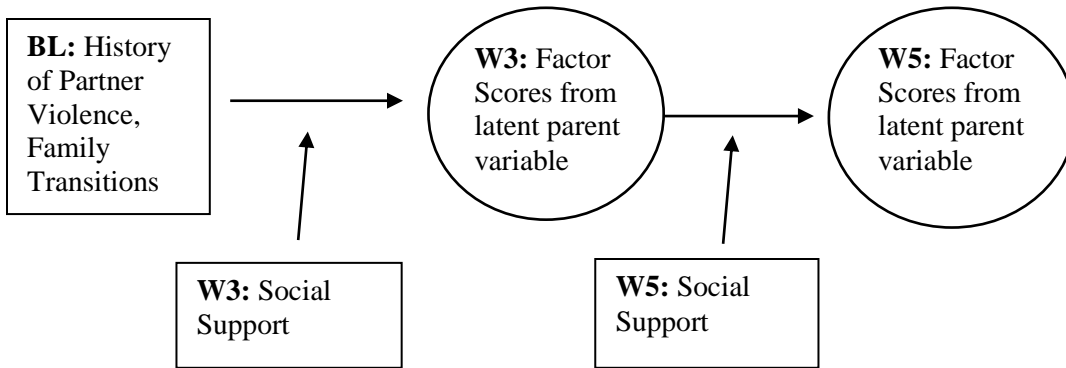
Figure 4. Hypotheses Associated with Aim II
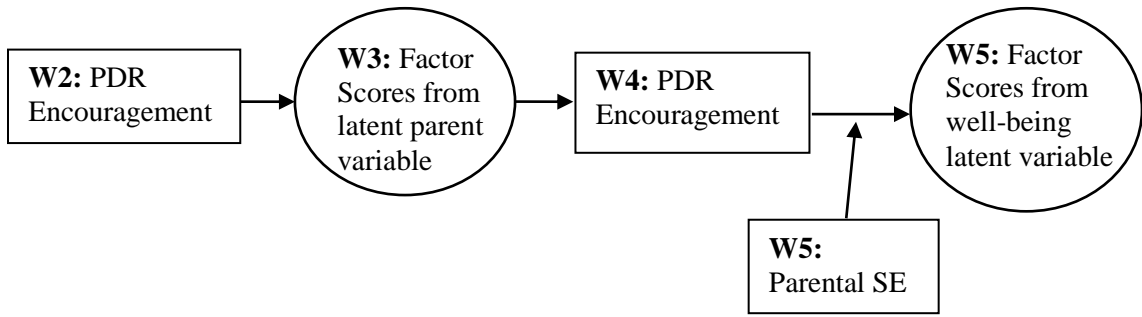
Figure 5. Hypotheses Associated with Aim III
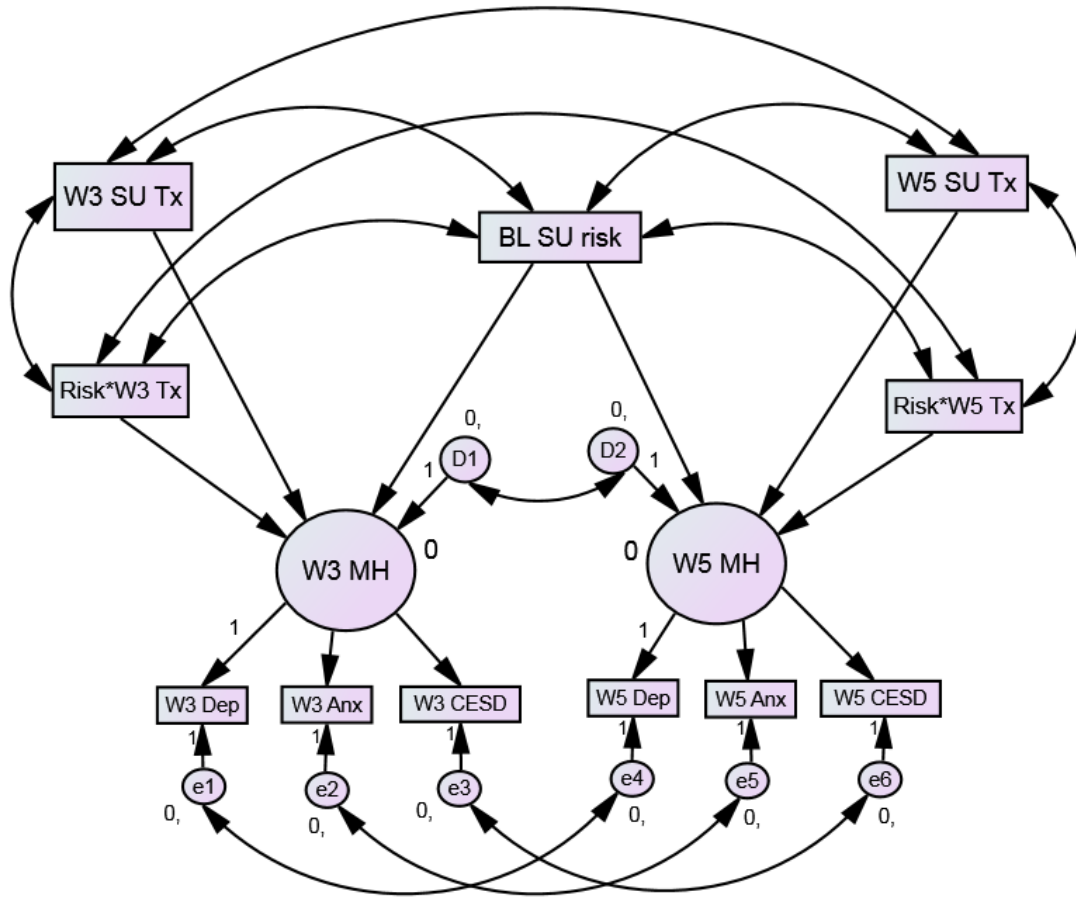
Figure 6. Aim I Structural Model
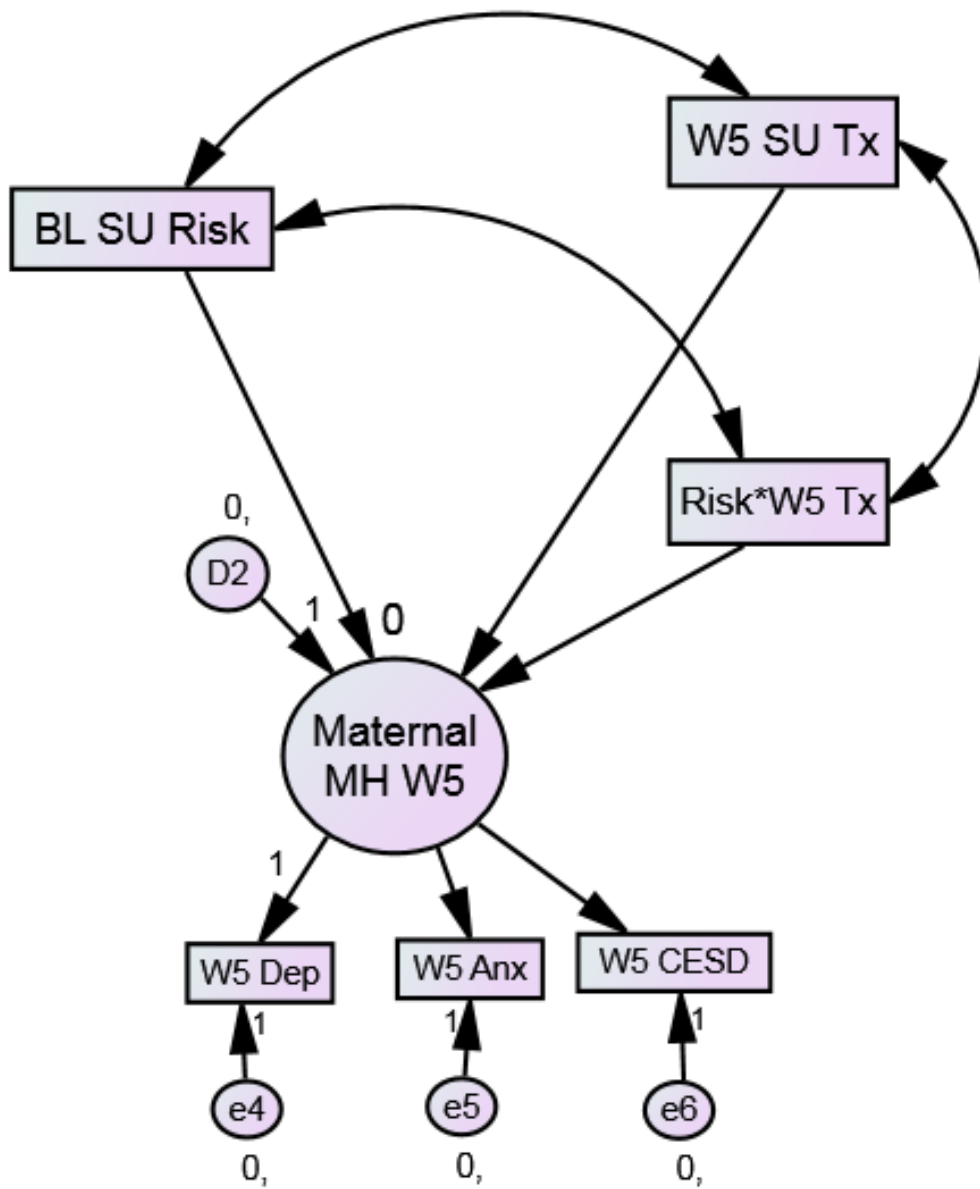
Figure 7. Aim I Structural Model with Baseline Substance Use Risk and Wave 5 Data
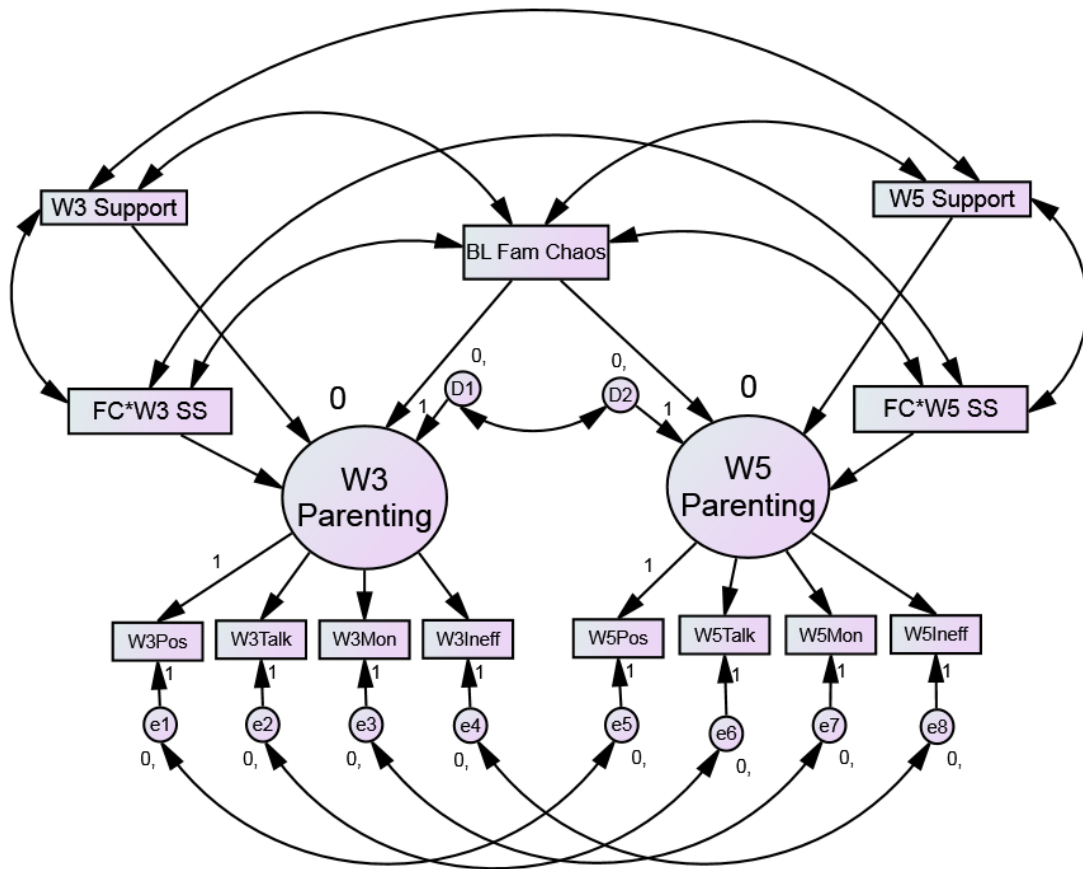
Figure 8. Aim II Structural Model
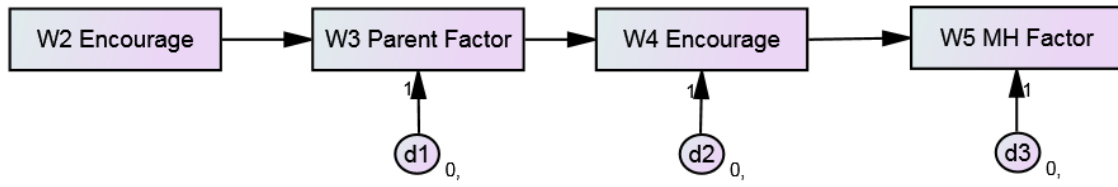
Figure 9. Aim III Structural Model 1
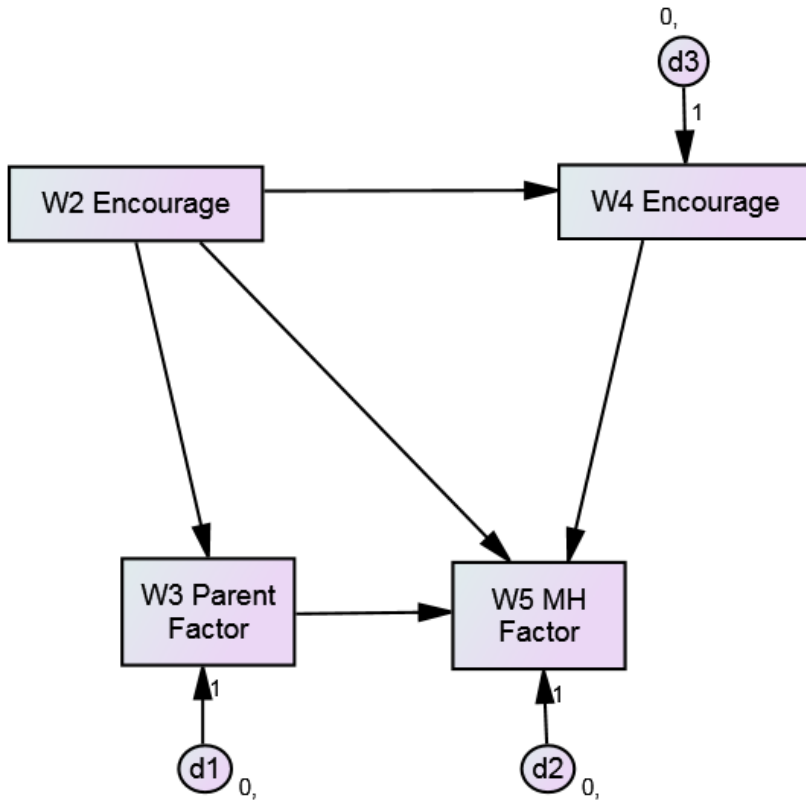
Figure 10. Aim III Structural Model 2
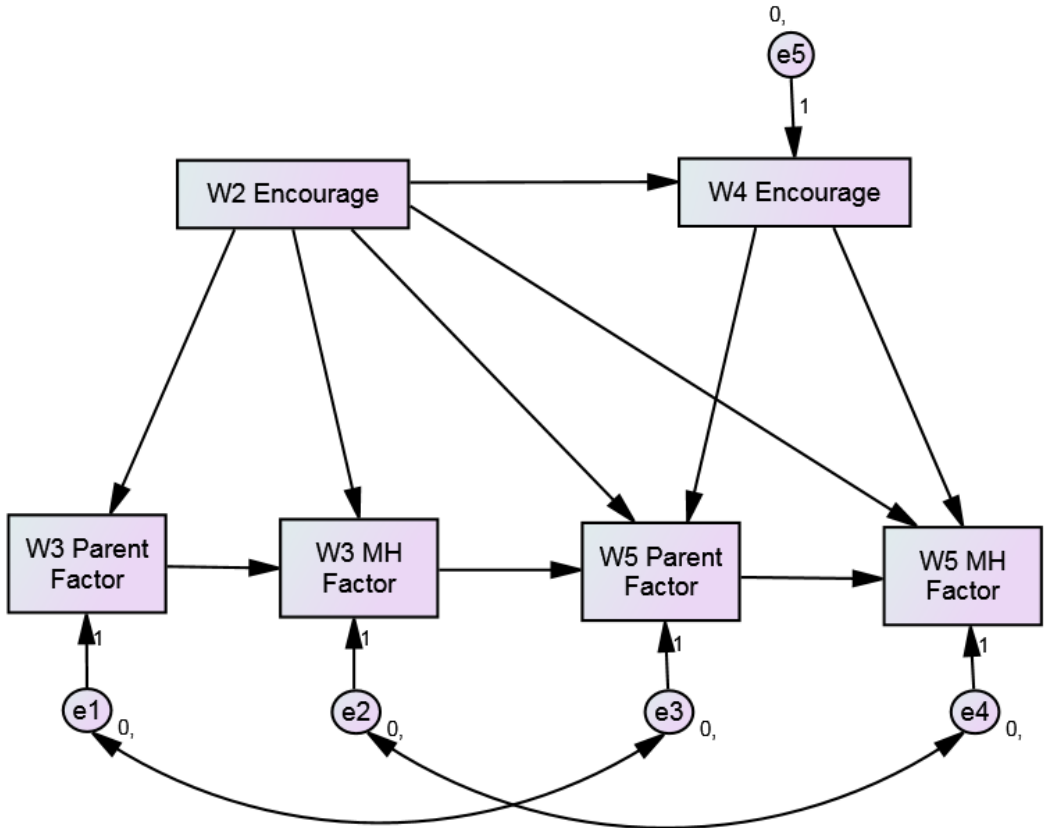
Figure 11. Aim III Structural Model 3

Table 1. Demographic Information: Maternal Race, Marital Status, and Education

Race	n	% / 103	Valid %
Caucasian	74	71.8	71.8
American Indian/ Alaska Native	5	4.9	4.9
Hispanic	17	16.5	16.5
Other	4	3.9	3.9
Missing	3	2.9	
Maternal Marital Status	n	% / 103	Valid %
Married	9	8.7	9.0
Separated/Divorced	34	33.0	34.0
Single	37	35.9	37.0
Partnered	18	17.5	18.0
Widowed	2	1.9	2.0
Missing	3	2.9	
Education	n	% / 103	Valid %
Did Not Graduate High School	35	34.0	35.4
GED	10	9.7	10.1
High School Diploma	12	11.7	12.1
Attended College	40	38.8	40.4
Associate's Degree	1	1.0	1.0
Bachelor's Degree	1	1.0	1.0
Missing	3	2.9	

Table 2. Demographic Information: Household Income

	n	% / 103	Valid %
< $4999	29	28.2	29.0
$5000-9999	18	17.5	18.0
$10,000-14,999	23	17.5	23.0
$15,000-19,999	12	11.7	12.0
$20,000-24,999	10	9.7	10.0
$25,000-29,999	3	2.9	3.0
$30,000-39,999	2	1.9	2.0
$40,000-49,999	2	1.9	2.0
$50,000-59,999	1	1.0	1.0
Missing	3	2.9	

Table 3. Demographic Information: Child Characteristics

	N	Minimum	Maximum	Mean	SD
Age at Baseline	103	5.36	11.74	8.26	1.66
Number of Transitions	103	2.00	13.00	4.97	2.18
Number of Children in Home	103	.00	5.00	1.49	1.34
Biological Siblings	103	.00	4.00	.90	1.04

Table 4. Demographic Information: Risk Factors

Criminal History	N (103)	%
Documented	77	74.8
Likely	1	1.0
Not Reported	25	24.3
Mental Illness	N	%
Documented	42	40.8
Likely	20	19.4
Not Reported	41	39.8
Physical Illness	N	%
Documented	6	5.8
Likely	1	1.0
Unlikely	1	1.0
Not Reported	8	92.2

Table 5. Parameter Statistics for CFA of Parental Well-Being Latent Variable

Parameter Estimate	Unstandardized	Standardized	p	SMC
W3 BSI Depression → W3 Mental Health	1.00 (constrained)			.698
W3 BSI Anxiety → W3 Mental Health	.997	.887	<.001	.786
W3 CESD → W3 Mental Health	1.317	.834	<.001	.696
W5 BSI Depression → W5 Mental Health	1.00 (constrained)			.824
W5 BSI Anxiety → W5 Mental Health	.965	.851	<.001	.724
W5 CESD → W5 Mental Health	1.521	.834	<.001	.696

Note: $\chi^2(5) = 9.83$, p = .08; CFI = .98; TLI = .95; RMSEA = .09, p-close = .16.

Table 6. Parameter Statistics for CFA of Parenting Latent Variable

Parameter Estimate	Unstandardized	Standardized	p	SMC
W3 Monitor → W3 Parenting	.849	.433	.005	.188
W3 Conversation → W3 Parenting	.987	.320	.031	.102
W3 Pos. Feelings → W3 Parenting	1.00 (constrained)			.563
W3 Ineffective Parenting → W3 Parenting	-.821	-.490	.003	.240
W5 Monitor → W5 Parenting	.788	.455	.002	.207
W5 Conversation → W5 Parenting	1.048	.364	.011	.132
W5 Positive Feelings → W5 Parenting	1.00 (constrained)			.606
W5 Ineffective Parenting → W5 Parenting	-.970	-.576	<.001	.331

Note: $\chi^2(15) = 17.28$, $p = .30$; CFI = .99; TLI = .98; RMSEA = .04, p-close = .55

Table 7. Aim I Descriptive Statistics

	n	M	SD	Skewness		Kurtosis	
				Stat.	SE	Stat.	SE
BL Substance Use Risk	103	4.38	1.99	-.57	.24	-1.68	.47
W1 BSI Depression	100	.54	.70	1.57	.24	2.05	.48
W3 BSI Depression	88	.63	.78	1.70	.26	2.9	.51
W5 BSI Depression	89	.46	.61	1.98	.26	5.12	.51
W1 BSI Anxiety	100	.50	.58	1.56	.24	3.11	.48
W3 BSI Anxiety	88	.63	.73	1.52	.26	1.89	.51
W5 BSI Anxiety	89	.41	.61	2.49	.26	6.73	.51
W1 CESD	100	12.65	10.18	1.11	.24	.82	.48
W3 CESD	88	20.16	8.10	.67	.26	-1.11	.51
W5 CESD	89	20.16	7.00	1.13	.26	2.41	.51
W1 Alcohol Craving	84	.20	.33	1.36	.26	.69	.52
W3 Alcohol Craving	74	.30	.45	1.44	.28	1.50	.55
W5 Alcohol Craving	75	.28	.44	1.47	.28	1.25	.55
W1 Drug Craving	84	.22	.36	1.68	.26	2.28	.52
W3 Drug Craving	74	.24	.41	1.46	.28	.75	.55
W5 Drug Craving	75	.22	.42	2.03	.28	3.78	.55

Table 8. Substance Use Treatment

In Past Year from Baseline (W1)	n	% / 103	Valid %
Yes	79	76.7	79
No	21	20.4	21
Missing	3	2.9	
Since Child Returned Home (W3)	n	% / 103	Valid %
Yes	46	44.7	52.3
No	42	40.8	47.7
Missing	15	14.6	
Since Last Interview (W5)	n	% / 103	Valid %
Yes	23	22.3	25.6
No	67	65.0	74.4
Missing	13	12.6	

Table 9. Aim II Descriptive Statistics

	n	M	SD	Skewness		Kurtosis	
				Stat.	SE	Stat.	SE
BL Family Chaos	102	1.97	.65	-.80	.24	.72	.47
W3 Conversation	83	5.29	1.27	-.38	.26	-.96	.52
W3 Positive Feelings	87	4.29	.55	-.66	.26	.05	.51
W3 Monitoring	88	4.30	.82	-1.03	.26	-.04	.51
W3 Ineffective Parenting	86	2.11	.70	.81	.26	.58	.51
W3 Social Support	89	7.43	1.78	-.43	.27	-.79	.50
W5 Conversation	100	5.45	1.32	-.48	.27	-.90	.53
W5 Positive Feelings	88	4.36	.60	-.90	.26	.16	.52
W5 Monitoring	88	4.30	.81	-1.14	.26	.67	.52
W5 Ineffective Parenting	88	2.18	.78	1.34	.26	2.05	.53
W5 Social Support	93	7.09	1.89	-.29	.26	-.82	.50

Table 10. Aim III Descriptive Statistics

	n	M	SD	Skewness		Kurtosis	
				Stat.	SE	Stat.	SE
W2 PDR Encouragement	100	.71	.23	-.76	.24	-.14	.48
W4 PDR Encouragement	83	.94	.70	-.38	.26	-.96	.52
	n	Min.	Max.	Skewness		Kurtosis	
				Stat.	SE	Stat.	SE
W3 Parenting Factor	81	-2.37	1.61	-.41	.26	-.47	.53
W3 Mental Health Factor	88	-1.25	3.66	1.41	.26	2.00	.51
W5 Parenting Factor	80	-3.55	1.46	-1.14	.27	1.54	.53
W5 Mental Health Factor	88	-1.24	4.70	2.09	.26	5.93	.51

Note: See Table 7 for Mental Health descriptive statistics and Table 9 for Parenting descriptive statistics.

Table 11. Aim I Correlations

		1	2	3	4	5	6	7	8	9	10
1.	BL Substance Use Risk	—	—	—	—	—	—	—	—	—	—
	r										
	(n)										
2.	W3 BSI Anxiety	-.028	—	—	—	—	—	—	—	—	—
	r										
	(n)	(88)									
3.	W3 BSI Depression	-.020	.762**	—	—	—	—	—	—	—	—
	r										
	(n)	(88)	(88)								
4.	W3CESD	.098	.751**	.689**	—	—	—	—	—	—	—
	r										
	(n)	(88)	(88)	(88)							
5.	W3 Alcohol Craving	.065	.324**	.446**	.239*	—	—	—	—	—	—
	r										
	(n)	(74)	(74)	(74)	(74)						
6.	W3 Drug Craving	.117	.070	.206	.118	.247*	—	—	—	—	—
	r										
	(n)	(74)	(74)	(74)	(74)	(74)					
7.	W5 BSI Anxiety	.029	.707**	.631**	.566**	.198	.155	—	—	—	—
	r										
	(n)	(89)	(84)	(84)	(84)	(70)	(70)				
8.	W5 BSI Depression	.082	.613**	.716**	.658**	.365**	.265*	.773**	—	—	—
	r										
	(n)	(89)	(84)	(84)	(84)	(70)	(70)	(89)			
9.	W5CESD	.106	.569**	.541**	. 711**	.186	.235	.708**	.770**	—	—
	r										
	(n)	(89)	(84)	(84)	(84)	(70)	(70)	(88)	(88)		
10.	W5 Alcohol Craving	.148	.287*	.453**	.272*	.615**	.152	.239*	.371**	.298*	—
	r										
	(n)	(75)	(70)	(70)	(70)	(70)	(70)	(74)	(74)	(74)	
11.	W5 Drug Craving	.119	.051	.177	.058	.153	.651**	.091	.138	.122	.403**
	r										
	(n)	(75)	(70)	(70)	(70)	(70)	(70)	(74)	(74)	(74)	(75)

Note: ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Table 12. Aim II Correlations

			1	2	3	4	5	6	7	8	9	10
1.	BL Family Chaos Index	r	—	—	—	—	—	—	—	—	—	—
		(n)										
2.	W3 Conversation	r	-.086	—	—	—	—	—	—	—	—	—
		(n)	(82)									
3.	W3 Positive Feelings	r	.021	.200*	—	—	—	—	—	—	—	—
		(n)	(86)	(82)								
4.	W3 Monitoring	r	-.116	.052	.374**	—	—	—	—	—	—	—
		(n)	(87)	(83)	(87)							
5.	W3 Ineffective Parenting	r	-.090	-.381**	-.354**	-.154	—	—	—	—	—	—
		(n)	(85)	(82)	(85)	(86)						
6.	W3 Social Support	r	.089	-.024	.213*	-.012	-.172	—	—	—	—	—
		(n)	(87)	(83)	(87)	(88)	(86)					
7.	W5 Conversation	r	-.121	.381**	.182	.059	-.203	.044	—	—	—	—
		(n)	(81)	(74)	(78)	(79)	(77)	(79)				
8.	W5 Positive Feelings	r	-.047	.037	.633**	.342**	-.274*	.196	.287**	—	—	—
		(n)	(82)	(74)	(78)	(79)	(77)	(79)	(82)			
9.	W5 Monitoring	r	-.177	.077	.323**	.740**	-.162	-.103	.170	.375**	—	—
		(n)	(82)	(74)	(78)	(79)	(77)	(79)	(82)	(83)		
10.	W5 Ineffective Parenting	r	.025	-.281*	-.351**	-.194	.757**	-.250*	-.148	-.439**	-.252*	—
		(n)	(81)	(81)	(74)	(79)	(77)	(79)	(80)	(81)	(81)	
11.	W5 Social Support	r	-.120	-.040	.207	.150	-.163	.710**	.019	.227**	-.029	-.301**
		(n)	(92)	(83)	(87)	(88)	(86)	(88)	(82)	(83)	(83)	(82)

Note: ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

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Table 13. Aim III Correlations – Encouragement with Wave 3 Variables

			1	2	3	4	5	6	7	8
1.	W2 Encouragement	r	—	—	—	—	—	—	—	—
		(n)								
2.	W4 Encouragement	r	.676**	—	—	—	—	—	—	—
		(n)	(83)							
3.	W3 BSI Depression	r	.103	.006	—	—	—	—	—	—
		(n)	(88)	(79)						
4.	W3 BSI Anxiety	r	.135	.045	.762**	—	—	—	—	—
		(n)	(88)	(79)	(88)					
5.	W3 CESD	r	.026	-.126	.689**	.751**	—	—	—	—
		(n)	(88)	(79)	(88)	(88)				
6.	W3 Conversation	r	.350**	.323**	.154	.207	.058	—	—	—
		(n)	(83)	(74)	(83)	(83)	(83)			
7.	W3 Positive Feelings	r	.104	.009	-.167	-.130	-.110	.200	—	—
		(n)	(87)	(78)	(87)	(87)	(87)	(82)		
8.	W3 Monitoring	r	.055	.012	-.166	-.138	-.096	.052	.374**	—
		(n)	(88)	(79)	(88)	(88)	(88)	(83)	(87)	
9.	W3 Ineffective Parenting	r	-.267*	-.169	.159	.223*	.121	-.381**	-.354**	-.154
		(n)	(86)	(77)	(86)	(86)	(86)	(82)	(85)	(86)

Note: ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 14. Aim III Correlations – Encouragement with Wave 5 Variables

			1	2	3	4	5	6	7	8
1.	W2 Encouragement	r	—	—	—	—	—	—	—	—
		(n)								
2.	W4 Encouragement	r	.676**	—	—	—	—	—	—	—
		(n)	(83)							
3.	W5 BSI Depression	r	.019	-.029	—	—	—	—	—	—
		(n)	(88)	(78)						
4.	W5 BSI Anxiety	r	.105	.029	.773**	—	—	—	—	—
		(n)	(88)	(78)	(89)					
5.	W5 CESD	r	-.008	-.105	.770**	.708**	—	—	—	—
		(n)	(88)	(78)	(88)	(88)				
6.	W5 Conversation	r	.273*	.386**	-.037	-.112	-.067	—	—	—
		(n)	(82)	(78)	(81)	(81)	(81)			
7.	W5 Positive Feelings	r	.075	.120	-.292**	-.260*	-.200	.287**	—	—
		(n)	(82)	(78)	(82)	(82)	(82)	(82)		
8.	W5 Monitoring	r	.040	.084	-.232*	-.177	-.208	.170	.375**	—
		(n)	(82)	(78)	(82)	(82)	(82)	(82)	(83)	
9.	W5 Ineffective Parenting	r	-.199	-.211	.169	.193	.193	-.148	-.439**	-.252**
		(n)	(81)	(78)	(81)	(81)	(81)	(80)	(81)	(81)

Note: ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

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Table 15. Aim III Correlations – Encouragement with Parenting and Mental Health Factor Scores

			1	2	3	4	5
1.	W2 Encouragement	r	—	—	—	—	—
		(n)					
2.	W4 Encouragement	r	.676**	—	—	—	—
		(n)	(83)				
3.	W3 Mental Health FS	r	.097	-.027	—	—	—
		(n)	(88)	(79)			
4.	W3 Parenting FS	r	.356**	.179	-.070	—	—
		(n)	(81)	(72)	(81)		
5.	W5 Mental Health FS	r	.047	-.030	.756**	.-.234*	—
		(n)	(87)	(77)	(83)	(76)	
6.	W5 Parenting FS	r	.184	.257*	-.224*	.709**	-.325**
		(n)	(80)	(77)	(78)	(71)	(78)

Note: ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Table 16. Parameter Statistics for Aim I Structural Model

Parameter Estimate	Unstandardized	Standardized	p
BL SU Risk → W3 Mental Health	.007	.010	.936
BL SU Risk → W5 Mental Health	.003	.005	.967
W3 SU Treatment → W3 Mental Health	.101	.079	.301
W5 SU Treatment → W5 Mental Health	.188	.151	.043
BL SU Risk * W3 SU Treatment → W3 Mental Health	-.038	-.035	.725
BL SU Risk * W5 SU Treatment → W5 Mental Health	.200	.146	.084

Note: $\chi^2(31, N = 103) = 29.98$, $p = .52$; CFI = 1.0; TLI = 1.0; RMSEA = .00, p-close = .82

Table 17. Parameter Statistics for Aim I Structural Model with Wave 5 Data Only

Parameter Estimate	Unstandardized	Standardized	p
BL SU Risk → W5 Mental Health	-.010	-.018	.875
W5 SU Treatment → W5 Mental Health	.081	.064	.564
BL SU Risk * W5 SU Treatment → W5 Mental Health	.342	.245	.041

Note: χ^2 (6, N = 103) = 6.52, p = .37; CFI = 1.0; TLI = .99; RMSEA = .03, p-close = .52

Table 18. Parameter Statistics for Aim II Structural Model

Parameter Estimate	Unstandardized	Standardized	p
BL Family Chaos → W3 Parenting	.000	.000	1.00
BL Family Chaos → W5 Parenting	-.054	-.117	.352
W3 Support → W3 Parenting	.082	.198	.086
W5 Support → W5 Parenting	.094	.206	.072
BL Family Chaos * W3 Support → W3 Parenting	-.064	-.159	.152
BL Family Chaos * Support → W5 Parenting	.014	.029	.787

Note: $\chi^2(51, N = 103) = 58.12$, $p = .23$; CFI = .98; TLI = .97; RMSEA = .04; p-close = .67

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Table 19. Aim II Parameter Statistics by Group

Parameter Estimate	Unstandardized		Standardized		*p*	
	SAU	Treatment	SAU	Treatment	SAU	Treatment
BL Family Chaos → W3 Parenting	-.092	.049	-.170	.118	.227	.515
BL Family Chaos → W5 Parenting	-.114	.026	-.190	.058	.213	.746
W3 Support → W3 Parenting	.226	-.008	.433	-.020	.002	.886
W5 Support → W5 Parenting	.083	.186	.137	.432	.345	.004
BL Family Chaos * W3 Support → W3 Parenting	-.044	-.038	-.081	-.102	.536	.463
BL Family Chaos * W5 Support → W5 Parenting	.016	.080	.027	.157	.846	.251

Note: $\chi^2(102, N = 103) = 148.82$, $p = .02$; CFI = .89; TLI = .80; RMSEA = .06; *p*-close = .12

Table 20. Parameter Statistics for Aim III Model 1

Parameter Estimate	Unstandardized	Standardized	p	SMC
W2 Encouragement → W3 Parenting	1.590	.362	<.001	.131
W3 Parenting → W4 Encouragement	.044	.185	.107	.034
W4 Encouragement → W5 Mental Health	-.147	-.035	.756	.001

Note: $\chi^2(3, N = 103) = 53.55$, $p < .005$; CFI = .12; TLI = -1.94; RMSEA = .41, p-close < .005

Table 21. Parameter Statistics for Aim III Model 2

Parameter Estimate	Unstandardized	Standardized	p	SMC
W2 Encouragement → W3 Parenting	1.524	.347	<.001	
W2 Encouragement → W4 Encouragement	.703	.670	<.001	
W3 Parenting → W5 Mental Health	-.303	-.304	.009	
W2 Encouragement → W5 Mental Health	1.010	.230	.122	
W4 Encouragement → W5 Mental Health	-.464	-.111	.454	
W3 Parenting				.120
W4 Encouragement				.450
W5 Mental Health				.090

Note: $\chi^2(1, N = 103) = .476$, $p = .49$, CFI = 1.0; TLI = 1.1; RMSEA = .00, p-close = .54

Table 22. Parameter Statistics for Aim III Model 3

Parameter Estimate	Unstandardized	Standardized	p	SMC
W2 Encouragement → W3 Parenting	1.300	.294	.005	
W2 Encouragement → W3 Mental Health	.501	.116	.285	
W2 Encouragement → W4 Encouragement	.700	.669	<.001	
W2 Encouragement → W5 Parenting	.188	.044	.733	
W2 Encouragement → W5 Mental Health	.227	.053	.667	
W3 Parenting → W3 Mental Health	-.059	-.060	.516	
W3 Mental Health → W5 Parenting	-.127	-.127	.111	
W4 Encouragement → W5 Parenting	.869	.211	.051	
W4 Encouragement → W5 Mental Health	.151	.037	.723	
W5 Parenting → W5 Mental Health	-.205	-.205	.022	
W3 Parenting				.087
W3 Mental Health				.013
W4 Encouragement				.448
W5 Parenting				.080
W5 Mental Health				.078

Note: $\chi^2(3, N = 103) = 3.21$, $p = .36$; CFI = 1.0; TLI = .92; RMSEA = .03, p-close = .47.

Table 23. Parameter Statistics for Aim III Model 3 by Group

Parameter Estimate	Unstandardized		Standardized		p	
	SAU	Treatment	SAU	Treatment	SAU	Treatment
W2 Encouragement → W3 Parenting	1.209	1.616	.315	.279	.025	.073
W2 Encouragement → W3 Mental Health	.965	-.569	.262	-.097	.068	.550
W2 Encouragement → W4 Encouragement	.723	.425	.730	.397	<.001	.010
W2 Encouragement → W5 Parenting	.041	-.627	.010	.120	.957	.460
W2 Encouragement → W5 Mental Health	.429	-1.201	.099	-.250	.542	.108
W3 Parenting → W3 Mental Health	-.081	.038	-.085	.037	.394	.808
W3 Mental Health → W5 Parenting	-.191	-.090	-.178	-.101	.138	.350
W4 Encouragement → W5 Parenting	.853	.945	.213	.194	.215	.102
W4 Encouragement → W5 Mental Health	.671	-.287	.153	-.064	.193	.648
W5 Parenting → W5 Mental Health	-.095	-.204	-.087	-.221	.374	.122

Note: $\chi^2(6, N = 103) = 18.23$, $p = .01$; CFI = .93; TLI = .50; RMSEA = .14, p=close = .02

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