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CHILDREN'S REPORTS OF DEFICIENT PARENTING AND THE PREDICTION OF
CONCURRENT AND PROSPECTIVE BEHAVIOR PROBLEMS

by

Sarah Marie Taber-Thomas

An Abstract

Of a thesis submitted in partial fulfillment
of the requirements for the Doctor of
Philosophy degree in Psychology
in the Graduate College of
The University of Iowa

May 2013

Thesis Supervisor: Professor Emeritus John F. Knutson

ABSTRACT

Child maltreatment has been linked to a wide range of poor child outcomes. Although children's reports of parenting are essential within clinical contexts, such as child welfare investigations or forensic interviews, children's reports of parental behaviors are not widely used within research contexts. Delineating child reports of maltreatment and parenting in the context of research could enhance methods of assessment and inform clinical practice. Thus, the present research sought to examine the utility of children's reports of deficient parenting and maternal alcohol abuse in the prediction of childhood internalizing and disruptive behaviors.

Participants were 350 children aged 4 to 9 and their mothers, who were enrolled in a 3-year longitudinal study examining parenting and children's social development. A multi-method, multisource approach to data collection was used. Children's internalizing and disruptive behaviors were assessed at two time points occurring approximately 12 months apart, and were based on mothers' reports and research assistant observations. Information regarding parenting and maternal alcohol abuse was obtained from children, mothers, and direct observational measures. Structural equation modeling was used to explore the effects of deficient parenting and maternal alcohol abuse on concurrent and prospective child behavior problems. Age was included as a potential moderator of the link between deficient parenting and child behavior.

A single construct conceptualization of deficient parenting was not supported by the data and the influences of each aspect of deficient parenting were examined independently. Results were varied across informants and depending on the specific aspect of parenting being assessed, providing partial support for the hypotheses. Among

younger children, child-reported care neglect significantly predicted later anxiety and was marginally associated with concurrent disruptive behaviors. Current maternal alcohol abuse was marginally associated with both concurrent disruptive and internalizing behavior. Among older children, the multi-source index of care neglect significantly predicted later disruptive behaviors, while the multi-source index of harsh discipline and child-reported supervisory neglect predicted concurrent disruptive behaviors. For both age groups, mothers' lifetime history of alcohol abuse significantly predicted concurrent and later disruptive behavior, and later internalizing behavior. Children's reported exposure to maternal alcohol abuse was significantly associated with concurrent disruptive behaviors. The link between harsh discipline and concurrent internalizing problems was marginally significant. Finally, supervisory neglect was associated with internalizing behaviors, but results varied depending on the measure of supervision used.

Current findings provided additional support for the utility of distinguishing between aspects of deficient parenting and examining the unique influences of aspects of parenting on child behavior. Overall, findings offer support for the predictive validity of children's reports of parenting and maternal alcohol abuse, and emphasize the importance of assessing children's experiences of parenting separately from other informants. Findings highlight the complexity of the relation between parenting and child adjustment, and suggest that the nature of these relations maybe fluid across children's development.

Abstract Approved: _____

Thesis Supervisor

Title and Department

Date

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May 2013

Thesis Supervisor: Professor Emeritus John F. Knutson

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Graduate College
The University of Iowa
Iowa City, Iowa

CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

Sarah Marie Taber-Thomas

has been approved by the Examining Committee
for the thesis requirement for the Doctor of Philosophy
degree in Psychology at the May 2013 graduation.

Thesis Committee: _____
John F. Knutson, Thesis Supervisor

Don Fowles

Jennifer Glanville

Erika Lawrence

Jodie Plumert

To Bradley and Sandy Bruce Taber-Thomas,
and to Nancy Taber

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INTRODUCTION

Recent estimates of child maltreatment suggest that 3.5 million reports of suspected child abuse and neglect are made each year, and about one fourth of those are substantiated (U.S. Department of Health and Human Services [USDHHS], Administration on Children, Youth and Families, 2009). Moreover, child maltreatment has been linked to a wide range of problems in childhood, including delinquency, academic problems, conduct problems, and various types of psychopathology. Within clinical settings children's reports of abusive parental behaviors are essential, because children's reports of their own maltreatment influence decisions made by child protective service (CPS) agencies. Interestingly, although clinical practice is directly informed by research, children are rarely the source of data in measures developed to assess child maltreatment in research studies (Kaufman Kantor et al., 2004). Rather, in research, maltreatment has typically been characterized by data derived from administrative records (e.g., Connell-Carrick, 2003; Famularo, Kinscherff & Fenton, 1992; Murphy et al., 1991), retrospective reports of childhood experiences (e.g., Berger, Knutson, Mehm & Perkins, 1988; Rausch & Knutson, 1991; Widom & Shepard, 1996), or parents' own descriptions of their parenting behaviors (e.g., Chaffin, Kelleher & Hollenberg, 1996; Locke & Newcomb, 2003; Sprang, Clark & Bass, 2005).

It has been suggested that many researchers are reluctant to assess children's current experiences of maltreatment due to associated ethical and procedural complications related to mandatory reporting requirements (Cohen, Brown & Smailes, 2001; Everson et al., 2008). When youth reports of childhood maltreatment *have* been included, most studies have focused on adolescence as the period of assessment (e.g.,

Everson et al., 2008; McGee, Wolfe, Yuen, Wilson & Carnochan, 1995; Prescott et al., 2000; Smith, Ireland, Thornberry & Elwyn, 2008; Swahn et al., 2006; Winegar & Lipschitz, 1999). In contrast, few studies have assessed younger children's reports of current or recent maltreatment. In one investigation of children's perceptions of abusive parenting (Ney, Moore, McPhee & Trought; 1986), children (5- to 12-year-olds) admitted to a psychiatric unit were interviewed about perceptions of abuse, views of their families, feelings about themselves and views of the world in general. Mothers also completed a self-report questionnaire about their child's experiences and staff provided ratings based on information received during the interviews. Children were more likely to accept blame for mild physical abuse, and mild or severe verbal and sexual abuse. In addition, verbal abuse was associated with children feeling angry and more pessimistic about the future. Although Ney et al. incorporated an assessment of children's perceptions of abuse, to date children's reports of abusive parenting are not well delineated in the child maltreatment literature.

It has been argued that specific types of child maltreatment reflect the extreme end of a continuum of parenting behavior (c.f., Knutson & Heckenberg, 2006). For example, some researchers have argued that physical abuse reflects a shift from non-physical to severe physical discipline. Moreover, several studies have offered support for the use of continuous models of parenting in which inadequate parental discipline forms the basis of abusive parenting (e.g., Bank & Burraston, 2001; Greenwald, Bank, Reid & Knutson, 1997; Knutson, DeGarmo, Koepl & Reid, 2005; Patterson & Bank, 1986). However, consistent with the categorical models used by social service agencies, most researchers to date have adopted categorical approaches to the assessment of child

maltreatment. Within categorical approaches, there is an underlying assumption that it is possible to clearly differentiate deviant from non-deviant parenting. Although categorical definitions might be necessary to substantiate claims of maltreatment in clinical and forensic contexts, a categorical approach to assessment within research contexts may result in a failure to identify deviant parenting that falls below the threshold for maltreatment yet is likely to contribute to poor child outcomes. Thus, within the present study child maltreatment is conceptualized as reflecting the extreme end of the parenting dimension, and will be described as deficient parenting. In addition, concerns regarding ethical and procedural complications associated with reporting requirements may be less relevant in research based on a continuous model of parenting. By using continuous models of parenting, researchers are able to assess children's current experiences of normative and deviant parenting within at-risk samples, rather than samples characterized by substantiated maltreatment, and the apparent problem of mandated reporting is likely to be less pronounced.

Although children's reports of parenting have been incorporated in the normative child-rearing literature for over seven decades (e.g., Armentrout & Burger, 1972; Belden, Sullivan & Luby, 2007; Oppenheim, Emde & Warren, 1997), most studies have focused on children's perceptions of parenting style or quality of the parent-child relationship, rather than reports of specific forms of parenting that could reflect more deviant acts. As interest in children's reports of parental behavior has increased, researchers have begun to develop measures that specifically assess children's experiences of deviant parenting. For example, the Alabama Parenting Questionnaire (APQ; Frick, 1991) was designed to tap the most important aspects of parenting that have been linked to disruptive behavior

problems in children (e.g., involvement, use of positive parenting techniques, monitoring/supervision, inconsistent discipline and corporal punishment). Thus it includes several items reflecting behaviors that are consistent with some definitions of abusive and neglectful parenting, yet children are not categorically identified as maltreated or not on the basis of this scale. Although the APQ was designed for use with school-aged children, preliminary findings in a sample of clinically referred children (6- to 13-year-olds), their mothers, and matched community volunteers, cast doubt on the utility of this type of assessment measure with younger children (Shelton, Frick & Wootton, 1996). Shelton et al. found that the youngest children in the sample (ages 6 and 7) demonstrated difficulty with the format of the APQ, particularly in response to questions regarding the frequency of parental behavior over the previous three days.

Researchers have also begun to assess children's reports of maltreatment using continuous approaches to assessment. For example, Kaufman Kantor et al. (2004) recently developed a child-report measure of parental neglect, the Multidimensional Neglectful Behavior Scale-Child Report (MNBS-CR), which taps four types of neglect: cognitive, emotional, physical, and supervisory neglect. Because the MNBS-CR uses audio computer-assisted self-interview technology, items can be tailored for different age groups, and it is appropriate for use with even young children. Although the MNBS-CR has not yet been widely used by other researchers, and has not yet been compared to other informant-reports of neglect, adequate levels of reliability and validity were demonstrated in preliminary analyses (Kaufman Kantor et al., 2004). Still, available data regarding younger children's reports of abusive and neglectful parenting is quite limited.

The relative absence of data regarding children's current experiences of maltreatment limits our understanding of how parenting influences children's social and emotional development. Given the central role children's reports play in determinations of abuse, delineating child reports of maltreatment and parenting in the context of research would enhance methods of assessment and inform clinical practice. With regard to enhanced assessment, gathering information from a variety of sources in the assessment of behavior has been found to increase the reliability and validity of assessment (Bogels & van Melick, 2004; Krevans & Gibbs, 1996; Renk & Phares, 2004; Schwarz Barton-Henry & Pruzinsky, 1985). There is also evidence to suggest that using multi-source indicators of parenting results in more stable estimates of parenting and a multisource approach is often necessary to obtain adequate levels of validity (Locke & Prinz, 2003). Moreover, the use of multiple informants has become the "gold standard" in research with children and families (Renk, 2005). Thus, the addition of children's reports of abusive and neglectful parenting behavior into contemporary research is likely to advance our understanding of parenting practices, and could ultimately result in better predictions of associated outcomes.

With regard to clinical practice, children's reports of parenting may also provide information about the parent-child relationship that could be important in terms of predicting treatment outcomes, as well as providing a potential focus for therapeutic work. A number of studies have demonstrated that discrepancies in reports of child psychopathology and treatment goals predict a range of treatment-related outcomes, including attendance, engagement, and symptom reduction (Brookman-Frazee, Haine, Gabayan & Garland, 2008; Ferdinand, van der Ende, & Verhulst, 2006; Israel, Thomsen,

Langeveld, & Stormark, 2007; Jensen Doss & Weisz, 2008). In addition, previous studies have used parent-child discrepancy measures regarding child behavior to model poor supervision among young school-aged children (e.g., Knutson et al., 2005; Knutson, DeGarmo & Reid, 2004). Thus, findings suggest that even when children and parents do not agree, the discrepancies can provide clinically relevant information and it is valuable to obtain information from both sources. The present work was designed to fill the gap in the current literature, by examining the utility of children's reports of distinct aspects of deficient parenting in the prediction of child outcomes.

CHAPTER I

CHILD MALTREATMENT RESEARCH

Methodological Considerations

Current methods used to assess child maltreatment are limited in a number of important ways. First, many researchers rely on archival data to measure maltreatment, because official substantiated maltreatment provides a relatively objective account of maltreatment, minimizes false-positives, and enables researchers to prospectively examine associated consequences. However, administrative data have historically been plagued by methodological limitations such as unreliable and inconsistent definitions of maltreatment, and jurisdictionally idiosyncratic guidelines for reporting and recording maltreatment (Connell-Carrick, 2003; Dunn et al. 2002; Knutson & Heckenberg, 2006; Sternberg et al., 2004; Wolock, 1982), which has limited the extent to which findings can be compared across studies. In addition, there is a high rate of co-morbidity among types of child maltreatment (Dong et al. 2004; Herrenkohl & Herrenkohl, 2009; Knutson et al., 2005; Sullivan & Knutson, 2000a), and administrative data often fail to distinguish among types.

Research has supported the utility of distinguishing among different aspects of deficient parenting. For example, in a study testing a theoretical model linking deficient parenting to the development of children's antisocial behavior, Knutson et al. (2004), identified three components of deficient parenting: care neglect, supervisory neglect and harsh punitive discipline; these findings were replicated in an independent sample, providing strong support for examining the role of specific forms of deficient parenting (Knutson et al., 2005). Official documentation of child maltreatment in administrative

records often lacks such specificity of information, (i.e., caseworkers might document neglect without specifying the type of neglect). Importantly, although distinctions might be documented in case records, researchers most commonly reference a single broad administrative classification of maltreatment type. Thus, children are often classified as victims of nonspecific maltreatment, and important distinctions are ignored (e.g., care neglect versus supervisory neglect; neglect versus physical abuse). Additionally, a common approach to utilizing administrative data in research is to identify individuals who have experienced a specific type of maltreatment, based on the records, and compare those children to non-maltreated individuals (i.e. children without an administrative record). However, in such studies, the co-occurrence of multiple types of maltreatment documented in the records is not considered (c.f. Sullivan & Knutson, 1998; 2000a; 2000b), and it is difficult to clearly differentiate the correlates and consequences of specific types of child maltreatment.

Relying on administrative data may also result in the selection of restricted samples. Based on the three National Incidence Studies, it is generally recognized that official substantiated maltreatment in CPS records grossly underestimates the prevalence of maltreatment (cf. Sedlak & Broadhurst, 1996). Consequently, children experiencing maltreatment that is either below the threshold for substantiation or has not come to the attention of CPS are not represented in research using administrative data. Instead, samples identified through CPS are likely to be characterized by more severe child maltreatment, such as families facing court charges, or termination of parental rights (e.g., Famularo et al., 1992; Murphy et al. 1991). As noted by Widom (1988), such method-dependent biases can influence conclusions in research and may limit the extent

to which findings can be generalized. That is, conclusions regarding causes and consequences of child maltreatment within administratively defined samples may not be representative of community or at-risk samples. As such, researchers have argued for the use of natural collectivities from community samples (e.g., Browne & Finkelhor, 1986) to understand the prevalence and consequences of child maltreatment.

A second approach to characterizing child maltreatment is a reliance on parents' reports of their own child-rearing practices. Although maternal reports can take into account parenting across a wide range of contexts (c.f. Zaslow et al., 2006), there is evidence to suggest that self-report data provided by parents is systematically biased. For example, within nonclinical samples researchers have found that parents' self-reports of parenting behaviors are overly positive compared to reports by children, observers, and partners (Bogels & van Melick, 2004; Gaylord Kitzmann & Coleman, 2003; Noller & Callan, 1988). Schwarz et al. (1985) compared ratings of mothers, fathers, adolescents (college freshman) and siblings on the Children's Reports of Parental Behavior Inventory (Schaefer, 1965), which is used to assess three overarching dimensions of parenting: acceptance/rejection, autonomy/control, and lax discipline/ firm control. They found that mothers and fathers rated themselves as more accepting and more firm in control than either child rated them. Similarly, Noller, and Callan (1988) videotaped interactions of mother-father-adolescent triads, and then obtained each family member's ratings of all family members' anxiety, dominance and involvement. Each family also watched the videotaped interactions of another triad and completed the same ratings for all members of the outsider family. All ratings were then compared to the ratings by each member of the insider family, by all members of an outsider family, and the ratings of a trained

observer. Parents of the insider family tended to endorse more positive perceptions compared to all other raters.

In contrast, relatively little is known about the reliability of parents' self-reports of child maltreatment (Bennett, Sullivan & Lewis, 2006; Stockhammer, Salzinger, Feldman, Mojico & Primavera, 2001). Within the context of interviews by CPS agencies, it has been estimated that there is a significant amount of underreporting or denial of abuse among parents characterized by a definite occurrence of abuse or a very high probability of abuse (Lanyon, Dannenbaum & Brown, 1991). More recent evidence suggests that mothers with substantiated histories of abuse are likely to underreport physical abuse on self-report measures, and deny involvement with CPS (Bennett et al., 2006). Thus, parents' self-reports of abusive or neglectful behaviors may not provide accurate reflections of actual parenting behavior experienced by the child.

Another common measurement strategy within child maltreatment research involves retrospective reports of childhood experiences. This approach provides a more practical and convenient method of assessment as compared to using administrative data. However, there is evidence to suggest that compared to prospective designs, retrospective data may result in a mischaracterization of the prevalence of maltreatment. For example Shaffer, Huston, and Egeland (2008) found that prospective data (based on interviews with caretakers, reviews of CPS and medical records, and observations of caregivers and their children) identified significantly more cases of maltreatment than did retrospective data (20.6% and 7.1%, respectively). As such, researchers generally question the reliability and validity of retrospective reports of child maltreatment (e.g., Henry, Moffitt,

Caspi, Langley & Silva, 1994; Della Femina, Yeager & Lewis, 1990; Widom & Shepard, 1996).

One major concern regarding retrospective recall is the underreporting of abusive experiences. For example, in a comparison of retrospective self-reports of physical abuse and abuse documented in court records, Widom and Shepard (1996) found significant underreporting of abusive experiences, and concluded that retrospective accounts of child-rearing experiences have only moderate to low reliability. Similarly, Smith et al. (2008) compared maltreatment reports from official CPS records with retrospectively self-reported measures. Data were collected as part of a longitudinal study examining delinquency in a high-risk urban sample of adolescents. In the last phase of the project, participants (then in young adulthood) completed a self-report measure regarding their own experiences of maltreatment prior to the age of 12, and these reports were compared to substantiated cases of maltreatment that had been documented in official CPS records. Overall, approximately 50% of participants with substantiated cases of abuse failed to report previously experienced maltreatment. Importantly, administrative data are also vulnerable to underestimating child maltreatment, as not all cases of maltreatment come to the attention of CPS agencies. Thus, neither the use of retrospective reports nor administrative records is an ideal standard for characterizing child maltreatment.

In addition to underreporting, a second concern regarding the use of retrospective reports is that current psychological states can influence self-report data. For example, Lewinsohn and Rosenbaum (1987) compared the recall of parental behavior experienced in childhood in acutely depressed adults, adults with remitted depression, and adults with no current or lifetime history of depression. Compared to non-depressed adults, acutely

depressed adults were significantly more likely to describe their parents in more negative terms (i.e., as emotionally rejecting). However, participants with remitted depression did not significantly differ from controls in their reports of parental behavior, suggesting that self-report data are state dependent and mood congruent.

Similarly, Prescott et al. (2000) found that poor affective state was the best predictor of retrospective memories of the young adults' perception of negative childhood experiences. They assessed whether the retrospective reports of childhood disciplinary experiences and perceptions of discipline corresponded to directly observed parent-child interactions approximately 10 years earlier, and whether the retrospective reports were influenced by the affective state of the respondent. Participants had been observed in their homes for several sessions during which behavior was coded using the Family Interaction Coding System (FICS; Reid, 1978). During the follow-up assessment, participants (then ranging from adolescence to adulthood) completed a self-report measure regarding current mood symptoms, and three scales assessing physical punishment, perceptions of discipline, and the atmosphere of their childhood home environment. Prescott et al. found that current depression significantly predicted the self-reports of childhood experiences, accounting for approximately 9% of the variance in each of the three scales. Interestingly, the observational measure of maternal punitiveness predicted retrospective self-reports of physical punishment, regardless of current depression. However, this was not the case for the two scales assessing respondents' perceptions of discipline or their childhood home environment. Thus, while the Prescott et al. study provides some support for the utility of retrospective recall of

specific acts of discipline, the findings also indicate that the objectivity of items used to assess earlier experiences is important.

Although the validity of retrospective reports of maltreatment has primarily been examined within adult samples, more recently, researchers have begun to assess adolescents' retrospective reports of parenting and maltreatment (e.g., Brown, Cohen, Johnson & Salzinger, 1998; Everson et al., 2008; Finkelhor, Hamby, Ormrod & Turner, 2005; McGee et al., 1995). Winegar and Lipschitz (1999) assessed the agreement between psychiatrically hospitalized adolescents' self-reports of maltreatment and "best estimates" of maltreatment. Adolescents (aged 11 to 18) completed the Traumatic Events Questionnaire–Adolescent Version (TEQ-A), which is used to assess lifetime experiences of physical abuse, sexual abuse, and witnessing home violence. "Best estimates" were based on hospital records, CPS reports, police reports, clinical notes, results of a psychological evaluation, and a clinician's report on the TEQ regarding the adolescent's experiences. Overall, the authors found significant levels of concordance between sources, suggesting that adolescents' recall of maltreatment was generally consistent with other sources (kappa coefficients ranged from .49 to .82). Although the findings are encouraging, as noted previously, such other sources (e.g., CPS records) are not necessarily the ideal criterion for validating child maltreatment measures.

Similarly, in a comparison of three approaches to the measurement of maltreatment, McGee et al. (1995) examined the concordance between adolescents' ratings, social workers' ratings, and researchers' ratings. Adolescents (aged 11 to 17) were randomly selected from an open caseload of a CPS agency, and were asked to rate the extent to which they had experienced five types of maltreatment, with separate

severity and occurrence ratings for each of three possible perpetrators (biological mother, biological father or other). Social workers were asked to provide the same occurrence and severity ratings of the adolescent's maltreatment experiences, based on their professional judgment, training and experience with the target family. Researchers' ratings were based on reviews of the official records documenting parental behavior (e.g., caseworker notes, police reports, school records, assessments by psychologists, physicians, or other professionals, etc.). On average, concordance between adolescents and the official sources was approximately 75% for the occurrence/nonoccurrence of maltreatment, and ranged from 60% to 90%, depending on the type of maltreatment. Although there was still significant underreporting, the rate of agreement is much higher than what has been documented in studies examining adult retrospective recall, suggesting that adolescents may provide more accurate accounts of childhood. Importantly, because the social workers' ratings were based on their personal experience working with the adolescents, and official records included information based on adolescents' reports of their experiences, the sources were not entirely independent. Thus, the agreement statistics were likely somewhat inflated in this study by contaminated source variance.

Everson et al. (2008) found less conclusive support for adolescents' retrospective recall in an examination of the concordance of adolescents' reports of maltreatment and maltreatment documented in independent CPS records. Adolescents (age 12) reported on sexual, physical and psychological abuse experiences occurring over their lifetime, and items were scored dichotomously as having occurred or not. To increase the likelihood of disclosure, an audio computer-assisted self-interview (A-CASI) methodology was

used, which presents each item in a visual and audio format and has been found to enhance disclosure of sensitive information by adolescents (e.g., Turner et al., 1998). Overall, Everson et al. found very poor agreement between adolescents' retrospective reports and CPS determinations of abuse, with kappa coefficients ranging from .07 to .19. For 44% of cases in which there was some documentation of abuse, adolescents failed to disclose having experienced abuse, which was a notably higher rate of nondisclosure than what has been reported in others studies (e.g., Winegar & Lipschitz, 1999; McGee et al., 1995).

Importantly, the samples in the Winegar and Lipschitz (1999) and McGee et al. (1995) studies were likely characterized by adolescents who would have been encouraged to report and process their maltreatment due to the settings from which they were recruited (i.e., open caseloads of CPS, inpatients in a psychiatric hospital), which could explain better agreement across sources (c.f. Everson et al., 2008). Additionally, as noted previously, the sources were not entirely independent in the McGee et al. study. Furthermore, the findings of Everson et al. do not necessarily reflect poor recall, because discrepancies were due, in part, to adolescents reporting new abusive experiences not documented in the CPS records. Specifically, adolescents reported rates that were 4 to 6 times higher than what was documented in the records. In addition there is some evidence to suggest that reporting experiences of child maltreatment is distinct from characterizing one's experiences as abusive (Berger et al., 1988; Prescott et al., 2000). Berger et al. (1988) found that less than 25% of adolescents in out-of-home placements due to substantiated maltreatment characterized those experiences as abuse on a self-report inventory. They did, however, report the occurrence of specific events that could

be considered abusive, suggesting that methods used to assess maltreatment experiences could influence individuals' reports. Taken together, available evidence offers mixed support for the validity of adolescents' retrospective reports, with some evidence supporting the use of reports of specific events rather than perceptions of events.

Finally, to date, in studies that have included adolescents' or children's reports of maltreatment, measures used to assess maltreatment experiences are often limited to either dichotomous (yes/no) items or global ratings of different types of maltreatment, which fail to capture the full range of maltreatment experiences. For example, McGee et al. (1995) simply prompted adolescents using a brief and broad example for each type of maltreatment (e.g., physical abuse was prompted with "hit or slapped"). Thus, adolescents may have denied the occurrence of maltreatment based on their lack of experience with one behavioral exemplar, despite having experienced other forms of that type of maltreatment. Similarly, in a study examining concordance between measures of self-reported maltreatment and court records in a sample of incarcerated juvenile delinquents, the self-report measure included only seven questions (Swahn et al., 2006). Finally, although Everson et al. (2008) used a more thorough assessment of physical, sexual, and psychological abuse, they did not assess experiences of neglect, which is the most prevalent form of child maltreatment (USDHHS, Administration on Children, Youth and Families, 2009).

In sum, although research has greatly advanced our understanding of child maltreatment over the past several decades, there is an obvious gap in the literature resulting from researchers' reluctance to assess children's current or recent experiences of maltreatment. Although the focus of many self-report studies has shifted to

adolescence as a critical period for assessment, those studies are still based on largely retrospective recall of distal childhood experiences. Studies relying on retrospective accounts of child rearing are subject to significant rates of nondisclosure (e.g., Everson et al., 2008; Widom & Shepard, 1996), and mood-related biases (e.g., Lewinsohn & Rosenbaum, 1987; Prescott et al., 2000), raising concerns about reliability and validity of the data. Retrospective designs also limit the extent to which causal explanations can be drawn between maltreatment and later outcomes. On the other hand, studies relying on administrative data can be conducted prospectively, yet samples are likely to be characterized by more severe maltreatment and the extent to which findings can be generalized to community or high-risk samples is unclear. Furthermore, there is significant variability in data collection methods across CPS agencies, making it difficult to compare findings across studies from different jurisdictions. Finally, studies that characterize maltreatment solely on the basis of parental report are subject to biases inherent in self-report data, and may not accurately reflect parenting experienced by a child. Thus, approaches that have commonly been used to assess child maltreatment limit our ability to unequivocally delineate associated risks and consequences of maltreatment across the lifespan.

Consequences of Child Maltreatment

There is substantial evidence for an association between child maltreatment and a wide range of adverse consequences (e.g., delinquency, academic problems, poor emotion regulation, peer aggression, and externalizing and internalizing behavior problems). Among the most frequently cited and well-established outcomes related to child maltreatment are aggression and antisocial or conduct disordered behaviors (Cohen

et al., 2001; Crooks & Wolfe, 2007; Egeland, Yates, Appleyard & Dulmen, 2002; Knutson, 1995; Widom, 1989). Physically abused children show elevated levels of aggression compared to both neglected peers and non-maltreated peers, and are also more likely than peers to have lower academic functioning, and increased adjustment problems at home, school and in the community (Wodarski, Kurtz, Gaudin & Howing, 1990). Furthermore, harsh parenting has been linked to externalizing behavior both concurrently and longitudinally (e.g., Bank & Burraston, 2001; Lansford et al., 2011; Miller, Loeber & Hipwell, 2009; Miner & Clarke-Stewart, 2008).

Externalizing behaviors (e.g., substance abuse, deviant peer association, and delinquency) have also been linked to inadequate parental monitoring/supervision (e.g., Cohen et al., 2001; Dick et al., 2009; Dishion & McMahon, 1998; Haapasalo & Tremblay, 1994; Stoolmiller, 1994). For example, in a meta-analysis examining correlates and predictors of juvenile conduct problems, lack of parental supervision was among the most powerful predictors and tended to be more strongly linked to conduct problems across development (Loeber & Stouthamer-Loeber, 1986). Interestingly, there is also evidence that parental monitoring may decrease as children age (e.g., Fite, Colder, Lochman, & Wells, 2005; Stoolmiller, 1994). Taken together, these findings suggest that parental supervision in early childhood may become a more powerful predictor of externalizing behavior later in children's development.

A number of studies have also found that neglected children are socially withdrawn or avoidant during interactions with peers, experience significant academic delays, and are at an increased risk for internalizing symptoms (Dubowitz, Pitts & Black, 2004; Hildyard & Wolfe, 2002; Manly, Kim, Rogosch, & Cicchetti, 2001; Wodarski et al.,

1990). As noted above, researchers have not always distinguished between types of neglect (e.g., care neglect versus supervisory neglect), and it is often difficult to determine whether different types of neglect are associated with distinct consequences. In recent years, however, some researchers have begun to focus on the role of specific types of neglect. For example, Dubowitz et al. (2005) found that children's reports of support at age 4 were linked to parents' reports of internalizing and externalizing behaviors at age 8. Of note, the measure of support reflected the parent's ability to provide for the child's basic needs (e.g., talking to the child or taking the child places outside the home), which is consistent with how some researchers have conceptualized care neglect (e.g., Knutson et al., 2005; Knutson, Taber, Murray, Valles, & Koepl, 2010).

Although child maltreatment has been linked to a myriad of adverse consequences, the lack of specificity in some operational definitions of maltreatment makes it unclear as to whether specific types of maltreatment are associated with *unique* risks. Additionally, our current understanding of how distinct aspects of maltreatment impact later outcomes is further complicated by the high rate of co-morbidity among types of child maltreatment (cf. Sullivan & Knutson, 2000a) and the methodological limitations outlined above (e.g., reliance on administratively defined samples, use of questionable comparison groups). Consequently, researchers have been increasingly criticized for failing to adequately account for both general and unique effects of maltreatment experiences (c.f. Pears, Kim & Fisher, 2008). Recently, in an effort to address the importance of overlapping maltreatment experiences, researchers have begun

to examine the co-occurrence of multiple types of maltreatment and associated risks and consequences of those types.

For example, Herrenkohl and Herrenkohl (2007) examined the extent of overlap and predictive strength of multiple forms of child maltreatment (sexual abuse, physical abuse, neglect, and exposure to domestic violence) on self-reported internalizing and externalizing behavior in late adolescence. Families were drawn from CPS records as well as community Head Start and daycare programs and were assessed during preschool, elementary school, and at age 18. Although a general maltreatment construct significantly predicted reports on the Youth Self-Report form (YSR; Achenbach, 1991), Herrenkohl and Herrenkohl also found unique direct effects for sexual abuse and physical abuse. Beyond the variance predicted by the general maltreatment construct, sexual abuse had a direct effect on both internalizing and externalizing behavior, and physical abuse was uniquely related to externalizing behavior.

In a similar effort to account for the co-morbidity of maltreatment, Pears et al. (2008) used a latent profile analysis to identify naturally occurring subgroups of children who experienced maltreatment. Within a sample of foster-care children, four profiles of maltreatment were identified and linked to different outcomes. For example, children who had experienced high levels of supervisory neglect with little physical or sexual abuse were at the lowest risk for internalizing problems compared to the other groups. In addition, children who had experienced high levels of multiple types of maltreatment were most at risk for externalizing behavior problems, and were also at risk for internalizing and cognitive problems. Thus, in general, the findings of Pears et al.

provide some evidence that specific combinations of types of maltreatment may be associated with specific outcomes.

These attempts to delineate the consequences of specific and combined types of maltreatment are consistent with an ecological framework for understanding the impact of child maltreatment on children's development, because they attempt to account for the multiple influences that can accompany different maltreatment experiences. A number of researchers have argued that multiple stressors, combined in various ways, can lead to more severe developmental outcomes (c.f. Finkelhor, Ormrod & Turner, 2007). Consistent with that view, there is evidence to suggest that experiencing multiple forms of maltreatment, or victimization more broadly, confers greater and longer lasting risk for poor adjustment across the lifespan (e.g., Felitti et al., 1998). Moreover, the co-occurrence of multiple types of maltreatment has been found to be a much stronger predictor of later adverse outcomes than single sub-types of maltreatment (Lau et al., 2005). Thus, in addition to identifying unique risks associated with distinct aspects of parenting, it is also important to address the combined influence of multiple types of deficient parenting on children's psychosocial adjustment.

Our current understanding of the consequences of maltreatment is also limited by the extent to which assessment approaches used to measure maltreatment influence the measured outcomes. Some researchers have documented significant variability of psychological outcomes based on methods used to assess the link between maltreatment and those outcomes (e.g., Stockhammer et al., 2001). Zaslow et al. (2006) examined how different parenting assessment methodologies would differentially predict child outcomes in a low-income sample. Parenting during the preschool years was assessed using

maternal self-report, a home environment measure based on maternal report and interviewer ratings, and observations of structured mother-child interactions. Child outcomes were collected four years later, during middle childhood, and were based on maternal-, teacher-, and child-reports of the child's cooperativeness, and a measure of reading achievement. Each outcome was then predicted from each of the parenting measures. In general, all parenting measures showed some predictive value, yet there was no consistent pattern of prediction across all child outcomes. Regression models including all three parenting measures predicted a greater portion of the variance in child outcomes than did any of the measures individually.

The findings of Zaslow et al. (2006) not only call attention to the potential contribution of method variance to determining a link between parenting and child outcomes, the findings highlight the importance of using multi-method/multisource indicators to assess the putative link between child maltreatment and childhood consequences. Unfortunately, even many recent studies examining the impact of parenting on childhood outcomes have relied on single informants. One example is a study by Tritt and Pryor (2005) investigating the relations among marital conflict, adolescents' perceptions of parents, and parenting styles. They found that neglectful parenting mediated the relation between marital conflict and adolescents' perceptions of parents. In another recent example, Reitz, Dekovic, and Meijer (2006) found that adolescents who perceived low levels of parental involvement (i.e., support, warmth and attachment) were at an increased risk for externalizing behaviors one year later. Similar single-source findings have been reported in studies with identified maltreated samples. For example, ratings of physical maltreatment by adolescents from an open caseload of a

child protective agency predicted a significant portion of the variance in self-reports of both internalizing and externalizing behaviors (McGee et al., 1995). In addition, Everson et al. (2008) found that adolescents' retrospective reports of maltreatment significantly predicted self-reported psychological symptomatology and adjustment to traumatic events.

Interpretations of these recent findings regarding outcomes of maltreatment are limited by the potential influence of source bias that comes with a single source approach. As noted by Sweeting (2001), using single-informant self-report data to establish the relation between two phenomena makes it difficult to disentangle the contribution of source variance to obtained associations. Thus, it is unclear whether the Reitz et al. (2006) findings reflect a link between specific parenting behavior (e.g., parental involvement) and the measured outcomes (e.g., externalizing behavior), or whether findings reflect a source bias. Similarly, in the Tritt and Pryor (2005) study, the links among marital conflict, neglectful parenting and perceived parenting styles could be due to source bias. Moreover, the findings of Everson et al. (2008) may indicate that youth who are willing to report maltreatment may also be more likely to acknowledge psychological and behavioral problems. Thus, although these findings have been used to support the predictive validity of adolescents' reports of parenting practices, they do not provide support for a causal link between parenting and later psychological problems that is uncompromised by potential source bias.

A number of researchers have begun to move away from the use of single-informant data by using official records to establish maltreatment and youth's self-reported symptomatology as the outcome measure. For example, Shaffer et al. (2008)

followed a sample of children from low SES backgrounds from birth to age 19, and assessed maltreatment using both prospective and retrospective methods. The prospective method included a combination of interviews with mothers regarding CPS involvement, review of CPS and medical records, and observations of mother-child interactions, while the retrospective method utilized only youths' reports of earlier maltreatment experiences. Compared to non-maltreated participants, adolescents identified as having been maltreated by both methods reported significantly higher levels of behavior problems on the Youth Self-Report form (YSR) of the Achenbach behavior problems scales (Achenbach, 1991). Similarly, Smith et al. (2008) found that maltreatment based on CPS records was associated with adolescents' self-reported antisocial behavior (e.g., general offending, violent offending, and drug use). By using independent sources for the predictor and outcome, these studies provide somewhat stronger support regarding the causal link between child maltreatment and later psychological maladjustment. Interestingly, when the Smith et al. sample was assessed during early adulthood, retrospectively self-reported maltreatment was a more consistent predictor of self-reported antisocial behaviors than was maltreatment based on CPS records, providing another example of the potential influence of source bias.

Finally, and directly pertinent to the present work, a handful of studies have utilized a multisource approach to examine the link between parenting and child outcomes by assessing both children's reports and parents' reports of parenting behaviors. For example, Gaylord et al. (2003) examined the unique contributions of children's perceptions and parents' perceptions of parenting to children's psychosocial adjustment, as measured by the Teacher Report Format (TRF) of the Achenbach scales

(Achenbach, 1991) and peers' sociometric ratings. Interestingly, children's perceptions and parents' perceptions were distinctly related to the measures of psychosocial adjustment. That is, Gaylord et al. found that mothers' self-reports of parenting were more predictive of children's internalizing and externalizing behavior than were children's reports of parenting, and children's reports of parenting were more predictive of peer acceptance. Taken together, the findings reviewed highlight the importance of using and assessing multisource indicators to assess the link between child maltreatment and childhood consequences, as well as the need to test models that distinguish among types of maltreatment and examine the co-occurrence of distinct types of maltreatment.

CHAPTER II

CHILDREN'S REPORTS OF PARENTAL ALCOHOL USE

There is a vast literature regarding the risks associated with being reared by parents who abuse alcohol (e.g., Christensen & Bilenberg, 2000; Dube et al., 2001; El-Sheikh & Flanagan, 2001; Grekin, Brennan & Hamen, 2005; Hussong et al., 2008; Johnson & Sher, 1991; Miller, Smyth & Mudar, 1999). Studies have identified increased risk for psychopathology in general, as well as alcoholism specifically, for the offspring of identified alcoholics (West & Prinz, 1987). It is generally assumed that, in addition to genetic contributions, risks associated with parental alcohol abuse are conferred, in part, through the impact of alcohol on parenting behavior (e.g., level of familial conflict versus cohesion, communication, problem-solving, disciplinary strategies). Thus, given the purported association between substance abuse and parenting, evidence of substance abuse of any kind in the home environment is sufficient to warrant involvement by CPS (Wolock & Magura, 1996). However, it is also possible that children's direct exposure to alcohol use, such as seeing behaviors associated with alcohol abuse or related consequences, confers risk for deleterious outcomes. Because researchers have generally focused on measures of indirect exposure (i.e., self-reported parental alcohol abuse), the link between direct exposure to parental alcohol use and outcomes in children is unknown.

To date, few studies have explicitly assessed children's direct exposure to parental alcohol abuse and activities. Historically, researchers have focused on children of alcoholics (COA), although most studies have relied on either the retrospective reports of adults regarding their childhood experiences (Hodgins & Shimp, 1995), or reports of pre-

adolescents and adolescents (e.g., Bijttebier, Goethals & Ansoms, 2006; Chassin & Barrera, 1993; Chassin, Curran, Hussong & Colder, 1996; Chassin, Pitts, DeLucia & Todd, 1999; Christensen & Bilenberg, 2000; Havey & Dodd, 1995). Consequently, younger children's reports of parental alcohol use are not well delineated in the literature. When younger children's reports have been assessed, samples have often been characterized by children from well-functioning middle class families (e.g., Casswell, Brasch, Gilmore & Silva, 1985; Engels, Van Der Vorst, Dekovic & Meeus, 2007; Isaacs, 1977; Jahoda, Davies & Tagg, 1980; Smith, Miller, Kroll, Simmons & Gallen, 1999). In contrast, children from lower socioeconomic status backgrounds have been underrepresented. Furthermore, the extent to which the available findings can be generalized to broader community or high-risk samples is unclear.

In addition, research with younger children has primarily focused on children's knowledge and perception of alcohol (e.g., Casswell et al., 1985; Isaacs, 1977; Jahoda et al., 1980; Prinsky & Bedell, 1984), rather than reports of actual parental alcohol use. Such studies have established that children as young as 4 years old are familiar with concepts related to alcohol abuse and the associated effects. Some researchers have argued that early exposure to alcohol use in the home environment influences attitudes towards alcohol and later alcohol consumption (e.g., Caswell et al., 1985; Donovan, 2007; Jackson, Henriksen, Dickinson & Levine, 2007). Moreover, favorable attitudes towards alcohol have been identified as a risk factor for children's alcohol use (Caswell et al., 1985; Smith, Goldman, Greenbaum & Christiansen, 1995). Parental modeling of alcohol-related behaviors is one mechanism by which children's attitudes towards alcohol

use are thought to develop. That is, higher levels of parental alcohol use could engender more positive attitudes toward alcohol consumption in children.

Casswell et al. (1985) examined the link between school-aged children's alcohol consumption, attitudes toward alcohol, and exposure to alcohol use in the home environment. Although most children demonstrated negative attitudes about alcohol use, negative attitudes were stronger among minimal and non-drinkers, providing some support for the link between consumption behaviors and attitudes. Mothers were also interviewed regarding their children's awareness of alcohol-related problems in the home environment, based on either discussion with a parent, direct experience of a problem, or exposure to alcohol-related parental conflict. Interestingly, children who were described as being aware of alcohol-related problems in the home endorsed more negative attitudes towards alcohol use as compared to children who were unaware of such problems. Thus, children's exposure or awareness of alcohol use in their home environment may result in positive or negative attitudes towards alcohol, depending on the context.

Caswell et al. (1985) also found that children of fathers with higher rates of alcohol use held more positive attitudes towards alcohol, yet this association was concentrated in the group of children who were reported by their mothers to be unaware of alcohol-related problems in the home environment. This finding suggests that children's attitudes may develop independently of parents' actual drinking, although this interpretation is tenuous because children were not interviewed regarding their awareness of parental alcohol use or problems in the home. Other studies have failed to demonstrate even such a qualified link between children's attitudes towards alcohol and their parents' self-reported consumption patterns (e.g., Jahoda et al., 1980). In a sample of 8- to 10-

year-old girls, parental alcohol use was not found to be an important correlate of girls' actual alcohol use or intentions to use over a 3-year period (Hipwell et al., 2005). Thus, although there has been a reliance on parents' self-reports of drinking to establish modeling of alcohol-related attitudes and behavior (Smith et al., 1999), these studies suggest that parental reports of alcohol use, per se, may not be a good indicator of child exposure to drinking behavior or a predictor of child attitudes toward alcohol.

Direct exposure to parental alcohol use can only be established by asking either parents or children specifically about that exposure. Unfortunately, the few studies that have done so have failed to measure possible child outcomes. For example, in an investigation about the source of children's knowledge of alcohol, 21% of children reported having personally witnessed the effects of alcohol on a family member or close friend (Casswell, Gilmore, Silva & Brasch, 1988). In addition, 50% of mothers reported that children were aware of alcohol-related problems in the home environment, and of those, 26% had been directly exposed. Thus, although the study provided considerable information about exposure, the authors did not examine any putative consequences of that exposure. Similarly, in a sample of 1st through 6th graders, Smith et al. (1999) assessed children's reports of the typical frequency and quantity of parents' alcohol use, as well as the positive and negative consequences associated with parents' drinking. Consequence items reflected specific parent behaviors, such as helping with homework, saying bad things, yelling, or breaking things. Children were asked how often each consequence behavior occurred while the parent was drinking compared to times when the parent was not drinking. Because the primary aim of this study was to assess

agreement between children and parents regarding reported parental alcohol use, potential associated child outcomes were not examined.

Using children's reports of parents' alcohol consumption patterns, or alcohol-related consequences, has been somewhat problematic due to significant, and apparently systematic, lack of child awareness. Findings from a number of studies suggest that only 50% of children of alcoholics accurately identify alcohol-abusing parents (c.f. Shell, Groppenbacher, Roosa & Gensheimer, 1992). Similar rates of concordance have been found in community samples (O'Malley, Carey & Maisto, 1986). Engels et al. (2007) found that adolescents were particularly likely to underestimate parents' drinking, when parents were heavy drinkers. Importantly, items traditionally used to obtain information from children of alcoholics have typically been designed to assess children's *concerns* about parental alcohol use, rather than specific parental behaviors related to problem drinking. Smith et al. (1999) used more objective items to assess parental consumption patterns and consequences, and found some support for the validity of children's reports of parental alcohol use. Consistent with previous studies, however, there was poor agreement between parents and younger children (1st and 2nd graders), and that disagreement reflected children ascribing non-drinking status to parents who reported drinking. Among older children (3rd through 6th graders), the relation between child-perceived and parent self-reported drinking was highly significant for mothers and fathers. Thus, the unreliability of children's reports found in previous studies may be due to the more subjective content of the assessment (e.g., Did you ever think your mother (or father) was an alcoholic?) rather than children's ability to accurately report parent consumption. Thus, like reports of child maltreatment, the veridicality of child reports of

alcohol use or abuse may regress on objective items rather than measures based on perceptions.

Furthermore, many studies have failed to differentiate children's exposure to, or awareness of drinking, from concerns about parents' drinking. In a series of studies examining children's reports of parental drinking, Shell et al. (1992) found that children (9 to 13 year olds) who reported concern about parental drinking reported higher levels of psychological and behavioral problems, such as depression, low self-worth, conduct problems and substance abuse. This was demonstrated in a sample of children of alcoholics as well as a community sample. In a third sample, when parents' self-reports of alcohol use were assessed, problem drinking was not significantly related to child symptomatology. Thus, children's reports of alcohol-related concerns, rather than parental drinking per se, were related to the child's psychological and behavioral problems.

Based on the available literature regarding children's reports of parental alcohol use, it is unclear whether children's awareness of parental drinking, or direct exposure to drinking in the home environment contributes to poor child outcomes associated with deficient parenting. One of the primary outcomes of interest has been the development of alcohol use in childhood and adolescence (e.g., Casswell et al., 1985; Hipwell et al., 2005, Jackson et al., 1997; Tildesley & Andrews, 2008), particularly among children of alcoholics (e.g., Chassin & Barrera, 1993; Chassin et al., 1996). However, much of this work has been based on parental reports of alcohol use, and parents' consumption patterns do not necessarily reflect modeling or children's exposure to alcohol in the home environment. Thus, support for the link between children's exposure to parental alcohol

use and psychological maladjustment is lacking. Only a handful of studies have explicitly assessed children's direct exposure to parental alcohol use via children's reports (e.g., Casswell et al., 1988; Smith et al., 1999), yet the potential link to adverse child outcomes was not examined.

CHAPTER III

CONSIDERATIONS FOR RESEARCH WITH CHILD INFORMANTS

Because most of the child maltreatment research to date using victim reports has examined adolescents' or adults' reports of childhood abuse, the utility of child-report data is not well established. However, studies within the developmental psychology literature, as well as studies examining normal child-rearing practices, highlight a number of important considerations regarding the use of children's reports of parental behavior, including maltreatment. The primary consideration in obtaining child-report data is whether children have the cognitive abilities necessary to provide accurate information in research. Because memory is fundamental to the ability to report one's experiences, a great deal of research has examined children's abilities to remember and recall information. Much of this work grew out of the inclusion of child victims in sexual abuse cases and concerns regarding children's ability to testify about their experiences. In response to this concern and in an attempt to inform professionals in the legal system, numerous studies have assessed the accuracy of children's memories of salient events, often by examining their reports of routine and stressful medical examinations (e.g., Bruck, Ceci, Francoeur & Barr, 1995; Merritt, Ornstein & Spicker, 1994; Ornstein, Gordon & Laurus, 1992). In a review of research using the medical examination paradigms, Ornstein (1995) found that, in general, even children as young as 3 years old are able to accurately recall details of their experiences over delay intervals extending up to twelve weeks. Furthermore, researches have since established that children are able to report memories for personally experienced traumatic and non-traumatic events as young as 3 years of age (Berliner, Hyman, Thomas, & Fitzgerald, 2003; Ceci & Huffman, 1997;

Fivush, 1998; Howe, 1997), and are able to recall particularly salient experiences even after several years (Peterson, Parsons & Dean, 2004).

A number of age-related changes in memory performance are also well documented that have relevance to child reports of personal experiences. In general, studies have shown that preschool-aged children are more susceptible than older children to suggestion, confabulation, and source misattribution error (Ceci & Bruck, 1993; Ceci & Huffman, 1997; McBrien & Dagenbach, 1998; Ornstein et al., 1992). McFarlane, Powell, and Dudgeon (2002) examined the extent to which intelligence, memory performance, socio-economic status (SES) and gender predicted 3- to 5-year-olds' willingness to yield to an interviewer's suggestions after controlling for the influence of age on suggestibility. Interestingly, although IQ, memory performance, SES and gender were all significant predictors of children's suggestibility, age continued to have a significant effect on children's willingness to yield to suggestion even after the other four variables were added to the regression model. Specifically, younger children had higher suggestibility scores than older children.

In addition, preschool-aged children typically offer less detailed information than older children regarding previously experienced events (e.g., Geddie, Beer, Bartosik & Wuensch, 2001; Lamb et al., 2003; Saywitz, Goodman, Nicholas & Moan, 1991). For example, during free recall of a routine medical examination 5-year-olds reported significantly fewer correct units of information compared to 7-year-olds (Saywitz et al., 1991). Lamb et al. (2003) reviewed forensic interviews that had been conducted with children (4 to 9 years old) who were alleged victims of sexual abuse to examine age differences in responses to free-recall prompts and focused recognition prompts. In

general, older children reported more details in response to all types of prompts. However, 4-year-olds provided substantial amounts of information about alleged abuse in response to free recall prompts. Furthermore, even young children were able to provide most of the information regarding abusive experiences (who, what, and when) needed by forensic investigators.

Interestingly, Koriat, Goldsmith, Schneider, and Nakash-Dura (2001) were able to manipulate the accuracy of children's responses to a narrative regarding an event in the life of a family, by varying the test format (recall or multiple choice) and response option (free-report versus forced-choice), and providing incentives for accuracy (e.g., earning points for accurate responses and losing points for inaccurate responses). Consistent with other studies (e.g., Geddie et al., 2001; Saywitz et al., 1991), older children (fifth and sixth graders) displayed higher rates of accuracy regarding details of the story as compared to younger children (second and third graders). Interestingly, regardless of age, in the high incentives condition free-recall and free-report were associated with enhanced children's accuracy. Thus, although age is likely to influence children's reports, based on the literature to date, it is reasonable to assume that even young children are able to provide meaningful data regarding personal child-rearing experiences. Findings also speak to the need for the routine assessment of age effects, particularly when using younger samples.

An important consideration in working with child informants is the distinction between children's abilities to report factual, objective data, as compared to information regarding more abstract concepts. Chambers and Johnston (2002) found that children (5- to 12-year-olds) were able to provide accurate ratings on an objective task (i.e., pictures

of children displaying different physical characteristics, such as holding different numbers of books), although younger children demonstrated greater difficulty when rating more subjective tasks, such as others' feelings or their own feelings. Similarly, in a study requiring 3 to 6 year old children to rate the severity of pain in hypothetical vignettes using the Faces Pain Scale-Revised (FPS-R), which is a six-face scale that is well validated and widely used with samples of older children, young children were generally unable to provide accurate severity ratings (Stanford, Chambers & Craig, 2006). Thus, providing ratings of emotional states appears to be particularly challenging for children. Taken together, these findings suggest that children are likely to demonstrate greater difficulty providing reports of child-rearing experiences that are subjective in nature, as compared to those that are specific, discrete, and represent objectively described behaviors.

The utility of children's reports of parental behavior has also been questioned due to poor agreement between children's reports and reports of parental behaviors from other sources (e.g., Gaylord et al., 2003; Schwarz et al., 1985; Sessa, Avenevoli, Steinberg, & Morris, 2001; Tein, Roosa & Michaels, 1994). In general, correlations between reports of children and other informants are at best moderate and frequently tend to be low or not significant. However, given the discrepancy in children's ability to report subjective versus objective information, poor agreement could be due, in part, to the nature of questions used to assess parenting. In fact, findings in the current literature suggest that children are likely to demonstrate higher levels of agreement with parents when reporting discrete observable parental behaviors (e.g., specific disciplinary acts) as

compared to more abstract or covert parenting behavior (e.g., support, quality of the relationship).

In a sample of pre-adolescents and young adolescents (11- to 14-year-olds) and their parents, Krevans and Gibbs (1996) found statistically significant albeit modest correlations between mothers' reports and children's reports of inductive discipline (i.e., directing the child to attend to the victims' perspective), and power assertions (i.e., discipline that attempts to change behavior through use of power over the child, such as telling the child s/he will be punished). However, ratings of love withdrawal (i.e., discipline that withholds parental approval or attention from the child), which is likely to be less overt, were not significantly related. In a study examining the relative importance of parent and child reports of parenting as predictors of psychosocial adjustment, Gaylord et al. (2003) demonstrated significant differences between children's reports and parents' reports of supportive parenting, yet no differences in reports of overt control or punitive discipline.

A similar pattern was demonstrated in a preliminary investigation of the utility of the Alabama Parenting Questionnaire (APQ; Frick, 1991) in a sample of clinically referred children, their mothers, and matched community volunteers (Shelton et al., 1996). Specifically, correlations between parents' reports and children's reports were statistically significant on three scales (involvement, positive parenting, and corporal punishment) that primarily consist of items reflecting discrete parental behaviors (e.g., "help child with homework", "talk to child about friends", "spank with hand when done something wrong"). In contrast, correlations on the supervision and inconsistent discipline scales were not statistically significant. Further examination of these two

scales suggests that many of the items are structured in a manner that is likely to present challenges for children. Firstly, a third of the items on the supervision scale are negatively phrased (e.g., “don’t check that child comes home from school”, “don’t tell child where you’re going”), which has been shown to interfere with a child’s ability to report accurately (Marsh, 1986). Secondly, the inconsistent discipline scale includes a combination of objectively phrased items and items requiring the child to infer the emotional perspective of his/her parents (e.g., “parent feels getting child to obey is more trouble than it’s worth,” “punishment depends on parent’s mood”).

Similar findings have also been demonstrated in the child maltreatment literature. For example, Ney et al. (1986) found a significant level of agreement between parents’ reports of hitting their child and children’s reports of getting hit, as well as reports of sexual abuse. In contrast, there was less agreement regarding the occurrence of emotional neglect (e.g., avoidance, lack of recreation or education) and verbal abuse (e.g., criticism, blaming, humiliating), both of which were measured with questions that arguably assess children’s perceptions of events rather than an actual experienced event. McGee et al. (1995) also found higher levels of disagreement between adolescents’ reports and official sources regarding the occurrence of emotional maltreatment, neglect (type not specified), and exposure to family violence, as compared to physical and sexual abuse. As noted previously, in a study examining the veridicality of adolescents’ retrospective recall, Prescott et al. (2000) found that objective ratings based on actual observations of parent-child interactions were related to reports of physical punishment assessed using objective and specific items. In contrast, objective observer ratings were

not related to reports of *perceived* discipline or general aversiveness of the family environment, which were assessed using self-report items of a more global nature.

To date there has not been an empirical investigation regarding the potential influence of the objectivity of questions on agreement across parent-child informants. However, in a recent review regarding parent-child discrepancies in reports of parental behavior, Taber (2010) attempted to glean preliminary empirical support for this notion. Using data reported by Tein et al. (1994), Taber tested the significance of differences in mother-child correlations across several scales of the Children's Reports of Parental Behavior Inventory (Schaefer, 1965). Results of these analyses revealed significantly better agreement for scales comprised of items reflecting objective, discrete behaviors as compared to those reflecting perceptions of experienced events. Thus, taken together with the results of other studies (e.g., Gaylord et al., 2003; Krevans & Gibbs, 1996; McGee et al., 1995; Ney et al., 1986; Prescott et al., 2000), it is reasonable to assume that the veridicality of reports, particularly those of child informants, may depend on the objective specificity versus the perceptive nature of questions used to assess parental behavior. Moreover, this suggests that it is critical to assess experiences of maltreatment using specific, objective items, particularly for researchers hoping to incorporate children's reports of maltreatment into broader models of deficient parenting.

CHAPTER IV
AGE AS MODERATOR OF THE LINK BETWEEN
PARENTING AND CHILDHOOD BEHAVIOR PROBLEMS

As noted previously, the age of a child is likely to influence reports of a variety of life events, including experiences of abuse (Koriat et al., 2001; Lamb et al., 2003; Saywitz et al., 1991). Importantly, the link between parenting behaviors and psychological maladjustment in children has been found to vary depending on the age of the child. For example, Frick, Christian, and Wootton (1999) found that while parental supervision of children's behavior was moderately predictive of conduct problems in older school-aged children and adolescents, it was only weakly predictive of the same behaviors in younger school-aged children. In addition, in a study examining the link between neglectful parenting and childhood obesity Knutson et al. (2010) found that care neglect was more strongly associated with obesity in younger children, while supervisory neglect was more strongly associated with obesity in older children. Age-related changes in the prevalence of internalizing and externalizing behavior in childhood are also well documented within epidemiological research (Bongers, Koots, van der Ende, & Verhulst, 2004; Costello, Mustillo, Erkanli, Keeler & Angold, 2003; Crijnen, Achenbach, & Verhulst, 1997; Fleming & Offord, 1990). Such studies have consistently shown that externalizing behaviors tend to decrease with age while internalizing behaviors tend to increase with age. Taken together, these findings suggest children's age is associated with both changes in parenting and childhood behavior problems, and moreover, age is likely to impact the link between them.

CHAPTER V

STUDY AIMS

The primary goal of this study was to incorporate children's reports of deficient parenting and maternal alcohol abuse in an assessment of the role of deficient parenting and maternal alcohol abuse in poor child outcomes. While children's reports of parental behaviors have been essential within clinical contexts, particularly during child welfare investigations or forensic interviews, children's reports of parenting are not widely used within research contexts. Most studies that include youth descriptions of parenting typically focus on adolescents' reports (e.g., Everson et al., 2008; McGee et al., 1995; Swahn et al., 2006). This is particularly surprising given that approximately 42% of child maltreatment victims are between the ages of 4 and 11 (USDHHS, 2009), placing preschool and school-aged children in a unique position to provide valuable information about the parenting to which they are exposed. Moreover, information provided by children has the potential to offer insight into the parent-child relationship, could be important in terms of predicting treatment outcomes, and may offer a potential focus for intervention. Thus, the disregard of child-report data within contemporary research limits our understanding of child maltreatment and related outcomes for children, and this in turn slows progress towards the development of more effective intervention and prevention efforts.

Three types of parenting were assessed in the present study: neglect, supervision, and punitive discipline. Consistent with Herrenkohl and Herrenkohl's (2007) conceptualization of child maltreatment, the three aspects of parenting were hypothesized to reflect an underlying construct of deficient parenting. This conceptualization is also

supported by evidence regarding the high rates of comorbidity among types of maltreatment as well as previous research that has demonstrated a link among these three aspects of parenting (Knutson et al., 2005). Deficient parents are likely to engage in one or more of these types of behaviors, although to varying degrees. If each aspect is modeled independently it is not possible to account for the potential confluence of risk that could be associated with being reared by a parent who engages in relatively low levels of multiple aspects of deficient parenting. Moreover, research suggests that the co-occurrence of multiple types of maltreatment confers greater and longer lasting risks across the lifespan (Felitti et al., 1998; Lau et al., 2005). Thus, the deficient parenting construct reflects the combined general risk associated with several potentially detrimental parenting behaviors.

In addition, parental alcohol abuse is a correlate of abusive and neglectful parenting (Dong et al., 2004; Dube et al., 2001; Locke & Newcomb, 2003), and has been well established as a risk factor for poor outcomes in children (e.g., Christensen & Bilenberg, 2000; Hussong et al., 2008; West & Prinz, 1987). Research to date has failed to establish children's direct exposure to alcohol abuse in the home, and thus, it is unclear whether children's exposure to drinking contributes to outcomes associated with deficient parenting. Consequently, both children's and mothers' reports of maternal alcohol abuse were assessed in the current study in order to examine the relations between parenting and alcohol abuse, as well as the potential impact of maternal alcohol abuse on children's behavioral outcomes.

Given the dearth of information regarding children's reports of abusive and neglectful parenting, the first aim of the present study was to test the validity of

children's reports of deficient parenting. To that end, a model reflecting children's experiences of parenting was compared to a model of deficient parenting that was based on parents' reports and direct observational data in the prediction of externalizing and internalizing behaviors measured concurrently and one year later. Of note, externalizing behaviors measured in the present study were primarily disruptive behaviors (e.g., aggression, disobedience, emotional reactivity) and, for that reason, this child outcome construct will be referred to as disruptive behavior. Indices of care neglect, supervisory neglect and harsh discipline included in the multi-source model have been used successfully in several studies to examine the impact of parenting on children's outcomes (e.g., Knutson et al., 2005; Knutson et al., 2010). Indices reflecting children's experiences of care neglect, supervisory neglect, harsh discipline, and exposure to parental alcohol use were developed for the current study. Outcomes were based on parents' reports and research assistant ratings of children's behavior.

Although poor parent-child agreement is a well-known problem within psychological research, recent evidence suggests that such poor agreement may be due to a failure by researchers to account for the influence of the subjectivity of questions on children's ability to provide veridical information (Taber, 2010). Moreover, contemporary findings reflect the link between poor outcomes and children's perceptions of parenting, rather than specific child-rearing practices, per se. While children's perceptions of parenting can provide useful information, such perceptions may not actually be related to specific parent behaviors, and using child perception as the datum limits our understanding of how different parenting behaviors might confer risk for poor outcomes. Thus, in the present study, all questions in the child-report measures referred

to discrete and reasonably objective acts of parental behavior rather than children's perceptions of parenting style or quality of the parent-child relationship. Given that young children are particularly likely to demonstrate greater difficulty providing reports of experiences that are subjective in nature, as compared to those that are specific and discrete (Chambers & Johnston, 2002; Stanford, Chambers & Craig, 2006), this approach is important as far as moving the field towards the use of more developmentally appropriate parenting measures with young children, and also enables researchers to measure parenting consistently across informants. Furthermore, if both informants provide information about objective experiences, there is likely to be fewer method-based discrepancies. In turn, this would allow for the development of more potent and reliable multi-method multi-source constructs. On the basis of the research reviewed, it was expected that children's reports of deficient parenting would be significantly correlated with mothers' reports and observers' ratings of deficient parenting.

In addition to establishing whether reports of parenting are related, a second aim was to examine the impact of deficient parenting on children's disruptive and internalizing behaviors. It was expected that greater levels of deficient parenting would predict higher levels of disruptive and internalizing behaviors, concurrently and one year later. Despite limited evidence linking children's reports of parenting behaviors to childhood outcomes (e.g., Dubowitz et al., 2005; Gaylord et al., 2003), the effects of deficient parenting on behavior were expected to be consistent across informants. With regard to parental alcohol abuse, based on the available literature (e.g., Christensen & Bilenberg, 2000; Hussong et al., 2008; West & Prinz, 1987), it was hypothesized that

parental alcohol abuse and children's exposure to alcohol abuse would each be associated with concurrent disruptive behavior and internalizing behavior problems.

Beyond what is explained by deficient parenting in general, using the combined construct, it was expected that care neglect, supervisory neglect, and harsh parenting would also each predict children's poor behavioral outcomes. With regard to neglect, there is increasing support for the link between neglect and internalizing behaviors in children (e.g., Dubowitz et al., 2004; Dubowitz et al., 2005; Hildyard & Wolfe, 2002; Manly et al., 2001; Pears et al., 2008). Because many researchers fail to differentiate between types of neglect, data linking specific types of neglect to children's outcomes is limited. However, Dubowitz et al. (2004) found that environmental neglect (e.g., lack of environmental safety) was most strongly related to internalizing behaviors in young children. Consequently, it was expected that care neglect (rather than supervisory neglect) would uniquely predict internalizing behaviors. In addition, Dubowitz et al. (2005) provided some support for the link between children's reports of care neglect and *both* internalizing and externalizing behaviors. Thus, it was also hypothesized that children's reports of care neglect would confer unique risk for disruptive behavior and internalizing behaviors beyond that accounted for by deficient parenting in general.

Research examining the importance of parental supervision suggests that low parental monitoring is associated with externalizing behaviors such as substance abuse, deviant peer association, and delinquency (e.g., Cohen et al., 2001; Dick et al., 2009; Dishion & McMahon, 1998; Stoolmiller, 1994). Although most of this work has focused on adolescent outcomes, within younger samples there is evidence that poor supervision may have an indirect effect on externalizing behavior by increasing the risk for harsh

discipline (e.g., Knutson et al., 2005). Interestingly, there is also evidence that parental monitoring may decrease as children age (e.g., Fite et al., 2005; Stoolmiller, 1994), suggesting that the influence of early inadequate supervision on externalizing behavior may become more apparent later in children's development. Thus, it was expected that supervisory neglect would not be directly related to children's concurrent outcomes, but rather, it would be linked to disruptive behaviors one year later. This finding was expected to be consistent across informants, such that children reporting higher levels of supervisory neglect would demonstrate significantly more disruptive behaviors during the second year of the study.

There is substantial evidence for the association between physical abuse and children's aggression and other externalizing behaviors (e.g., Crooks & Wolfe, 2007; Egeland et al., 2002; Knutson, 1995; Widom, 1989). Moreover, researchers have demonstrated a unique effect beyond what is accounted for by maltreatment in general (e.g., Herrenkohl & Herrenkohl, 2007). Although research to date has not examined the relation between externalizing behavior and children's reports of punitive discipline, based on the research reviewed, it was expected that children reporting higher levels of harsh discipline would demonstrate greater levels of disruptive behaviors at both time points. Moreover, it was expected that the current study would replicate previous findings with regard to parents' reports of punitive discipline being linked to disruptive behaviors.

The third aim of the current study was to examine the predictive power of the child-report model as compared to the multisource model. There are three potential outcomes: 1) measuring children's experiences of parenting does not significantly

enhance the prediction of behavioral outcomes; 2) children's experiences of parenting are consistent with parenting as reported by other sources and could be pooled with data collected from other informants, thus resulting in better estimates; or 3) children's experiences of parenting are distinctly related to behavioral outcomes, enhancing predictive power yet suggesting the need to measure children's experiences independently from other informants. Although improbable, it is also possible that children's reports of parenting are contrary to reports from other informants. Based on the hypotheses outlined above, and the effort to develop objective measures of parenting, it was expected that the present study would provide support for the second potential outcome. Relying on specific behavioral indicators of parenting, rather than perceptions of parenting, should result in better agreement across informants. This in turn would allow researchers to develop multi-source indices of parenting that are likely to provide more reliable and stable estimates. In other words, incorporating children's reports of parenting behaviors into contemporary models of parenting, would enable researchers to develop a better understanding of how parenting influences children's development, and ultimately promote the development of more effective parenting intervention and prevention programs.

Finally, children's age is known to be associated with both parenting (Frick et al., 1999; Knutson et al., 2010) and childhood behavior problems (Bongers et al., 2004; Costello et al., 2003; Crijnen et al., 1997; Fleming & Offord, 1990), and could sharpen or blunt the impact of parenting on disruptive and internalizing behavior problems. Thus, age was examined as a potential moderator of the link between parenting and childhood behavior problems. Based on the available research, a number of specific pathways in

the model were hypothesized to vary across age groups. First, it was expected that the link between supervisory neglect and disruptive behavior problems would be stronger among the older children, which would be consistent with the findings of Loeber and Stouthamer-Loeber (1986) and Frick et al. (1999). Second, research examining children's exposure to parental alcohol use has demonstrated that older school-aged children who report concerns about their parents' drinking exhibit poor behavioral outcomes (Shell et al., 1992). Of note, children's *perceptions* of parental alcohol use may influence their psychological adjustment differently than direct exposure, as was measured in the current study. However, in studies that have assessed direct exposure, younger children demonstrated lower levels of awareness of parental alcohol use as compared to older children (e.g., Smith et al., 1999). Thus, it was expected that the link between child-reported exposure to maternal alcohol abuse and behavioral outcomes would be stronger in older children. Finally, given that internalizing behaviors are typically less prominent in younger children (Costello, Egger, & Angold, 2005; Fleming & Offord, 1990), it was expected that the relation between parenting and internalizing behaviors would be stronger in older children.

CHAPTER VI

METHOD

Participants

The sample consisted of 350 children and their maternal caregiver enrolled in a 3-year longitudinal study of parenting and children's social development. The sample was diverse with respect to ethnicity, and parental occupational status and educational attainment (see Table 1). Children were between the ages of 4 and 9 and approximately half were female (52%). Maternal caregivers ranged from 20 to 65 years of age ($M = 31$, $SD = 6.5$); 40% were single parents. The number of siblings residing in the home with the participating child ranged from 0 to 7 ($M = 1$, $SD = 1.4$).

Recruitment and Eligibility

Families were recruited from urban, suburban and rural communities in southeastern Iowa ($n = 210$) and north central Wisconsin ($n = 140$). To be eligible for the longitudinal study, participants had to be recipients of some form of government-based economic assistance (e.g., Temporary Assistance for Needy Families, Medicaid, Food Stamps), or other social services. Families characterized by low socio-economic status (SES) were selected for the study because the risk for child maltreatment is increased compared to that of middle- or upper-SES families (Sedlak & Broadhurst, 1996). Because the longitudinal study was focused on parent-child relations, families in which children had been in out-of-home placements (i.e., foster care, kinship care) were not enrolled. Families who had been identified as neglectful or physically abusive were eligible; however, children known to have been sexually abused were not eligible for

inclusion. The study was conducted under approval of the University of Iowa IRB and with a Certificate of Confidentiality issued by the National Institutes of Child Health and Human Development (NICHD).

Procedures

At approximately quarterly intervals, sentinel agencies provided lists of eligible participants in Iowa and Wisconsin. Potential participants were contacted by mail or phone, and if they expressed interest in participating an initial appointment was scheduled in their home. Informed consent was obtained during the initial appointment in the home of the subjects, and participants were informed that the study did not involve any intervention to influence the child's or parent's behaviors. In addition, because the study was conducted with a Certificate of Confidentiality, the protocol explicitly precluded informing social service agencies whether families enrolled in the project or not. Thus, there were no social-service or clinical inducements to participate in the research. Participants were informed that their enrollment would not be reported to social service agencies, and would not affect their eligibility for services.

Immediately following the informed consent process, when a parent enrolled in the study, a structured interview was conducted regarding the circumstances of the enrolled child's life, family background, and some aspects of parenting. The interview is based, in part, on the modification of the Home Observation for Measurement of the Environment (HOME; Caldwell & Bradley, 1978) developed for use in the Project on Human Development in Chicago Neighborhoods (PHDCN; Leventhal, Selner- O'Hagan, Brooks-Gunn, Bingenheimer & Earls, 2004) and, in part, on the information framework that emerged from the recommendations of the Research Sub-Committee of the

Interagency Task Force on Child Abuse and Neglect (Sternberg, et al., 2004). Because the interview took place in participant homes, it was also possible to directly assess living conditions in the household and its immediate vicinity.

Regardless of enrollment following informed consent, families were compensated \$50 for the initial appointment. Once enrolled, participants were scheduled for four to six laboratory sessions arranged to commence within approximately 30 to 45 days of enrollment. Follow-up sessions were scheduled approximately one year after enrollment and were conducted in the laboratory. Parents were compensated \$50 and children were compensated \$10 (or a toy valued at \$10 or more), for each session in which they participated. With the exception of the initial interview conducted in participants' homes, all measures were completed during laboratory sessions. Trained research assistants administered all measures.

Although it is impossible to determine the exact number of eligible families contacted, based on indirect evidence from telephone contacts, returned letters, and focus groups, it is estimated that recruitment efforts actually reached approximately half of eligible parents, with approximately 55% of the *contacted* families scheduling an in-home visit. Less than 2% of those scheduling an in-home visit declined to participate

Measures and Construct Development

Child-report Measures of Deficient Parenting

Care Neglect

Care neglect indicators were chosen based on items that have previously been included in a Care Neglect Index by Knutson and colleagues. Items were derived from

two measures, and combined in a single summative index to characterize child-reported care neglect. First, within a semi-structured clinical interview, children were asked whether they participated in 21 activities with their caretakers over the last week (yes/no). Four scores were derived from this measure by assessing participation in four types of activities: 6 items reflecting participation in indoor activities (e.g., playing a game, working on a project), 3 items reflect participation in outdoor activities (e.g., going for a walk, playing an outdoor game), 6 items reflect participation in family outings (e.g., shopping, meetings, visiting friends or relatives), and 6 items reflect routine family activities (e.g., talking about the child's day, eating a meal together). Because items referred to each primary caretaker separately (typically mothers and their partners), yet not all children had contact with two caretakers, items were first scored dichotomously to reflect participation with either (1) or neither (0) caretaker. Next, participation in each *type* of activity was scored dichotomously in a direction to indicate care neglect. That is, within each of the four activity types, responses indicating that the child had not engaged in any activities were scored as 1; responses indicating that the child had engaged in at least one activity (within an activity type) were scored as 0.

Second, children were interviewed using the Computer-Assisted Child Interview – 2nd Edition (CACI-2, Bank et al. 2000). The CACI-2 is a structured computerized interview for children between the ages of 4 and 9 based on Ci3 software (Sawtooth Technologies, 1999, Northbrook, IL, USA), and has been established as an effective strategy for obtaining information from younger children (Bank et al. 2000; Knutson, Lawrence, Taber, Bank & DeGarmo, 2009). The interview includes 13 items pertaining to care neglect (e.g., “I don’t get enough to eat,” “I wear dirty clothes to school,” “My

hair is not brushed or combed before school,” “I have been to the doctor”). Questions are presented via audio statements and clip art, and response choices are represented with visual images of three jars of gumballs to represent the three choices (an empty jar = “not at all;” a half-full jar = “some;” a full jar = “a lot”). After choosing a response, audio feedback is provided (“You answered...”) so the child can change his or her answer. A research assistant remained in the room during administration to facilitate the handling of the equipment, encourage responding, and provide clarification if needed. However, the research assistant did not provide any feedback to the child regarding his or her responses. Responses on these 13 items were scored from 0 to 2 in the direction to indicate neglect. All items were then standardized, and the final care neglect score was the summation of the four items from the activities checklist and the 13 CACI-2 items.

Supervisory Neglect

A 7-item index of supervisory neglect was generated using items from two measures. First, five items from the CACI-2 pertaining to supervisory neglect were included in the index: “I watch whatever I want,” “I play with kids I’m not supposed to play with,” “I go places I’m not supposed to go,” “My parents know my friends,” and “My parents know my friends’ parents.” Responses for each item ranged from 0 to 2 and were scored in the direction to indicate poor supervision.

Second, within the context of a semi-structured interview, children provided information regarding parental supervision and use of babysitters. One question pertained to whether children were supervised while at home during the day (e.g., “Does your mom ever nap while you are awake?”). When children reported a lack of supervision during the day, follow-up questions were asked to determine whether their

parents worked at night. Thus, only responses reflecting *both* a lack of supervision *and* the absence of an evening job were coded (dichotomously) in the direction to reflect poor daytime supervision. In addition, three items pertained to the use of babysitters. Information regarding the adequacy of the babysitter (i.e., babysitter is at least 12 years old) was obtained, and responses were scored dichotomously in the direction to indicate inadequate babysitters. Children also reported the typical frequency of babysitters (ranging from never to 3 or more times each week) and duration of babysitters (ranging from < 1 hour to ≥ 3 hours). However, informal feedback from research assistants administering the interview suggested that many children demonstrated significant difficulty in understanding the concept of time. As such, there were concerns regarding the validity of the data, and child reports of the typical duration and frequency of babysitting were dropped from the index. The seven items were then standardized and summed to generate the final supervisory neglect score.

Harsh Discipline

A 5-item harsh discipline index was generated using items from two measures. First, within a semi-structured interview, children were asked about their mothers' disciplinary response to the child's misbehavior (e.g., "Do you ever get spanked when you do something wrong?"). Children's responses to three questions pertaining to the use of punitive discipline were used in the index: mothers' use of spankings, spanking with an object, and hitting in other ways (e.g., slaps in the face, hits on the arms or legs). If children indicated their mother engaged in a particular act, they were also asked to report the frequency with which she engaged in that behavior, ranging from rarely to almost every time the child is in trouble. Responses were weighted with respect to frequency of

occurrence, ranging from 0 (never) to 4 (almost always). Thus, children reporting more frequent experiences with punitive discipline received higher scores. Second, two items from the CACI-2 pertaining to harsh discipline were included in the index: “My mom yells at me” and “My mom spansks me.” Responses on these two items were scored 0 to 2 in the direction to reflect the use of punitive discipline. All items were then standardized and the final harsh discipline score was the summation of the five items.

Child-report Measure of Maternal Alcohol Use

Children’s reports of parental alcohol use and abuse were obtained in a semi-structured interview administered during one of the laboratory sessions. The interview was created for the purpose of the current research, and the structure and content were based, in part, on research pertaining to the clinical interviewing of children on sensitive topics (e.g. Sternberg et. al, 1996), as well as suggestions in the literature regarding how to clarify children’s responses to questions about parental alcohol abuse (Shell, et al., 1992). The interview includes seven questions regarding the child’s awareness of their parents’ alcohol use and drinking-related behaviors (e.g., going out to bars, hiding alcohol at home, legal problems related to alcohol, and drinking while driving). Although children provided information about both parents as well as other adults residing in the home, only data pertaining to mothers was included in the present analyses. Items were scored dichotomously in a direction to indicate children’s awareness of maternal alcohol use and summed.

To ensure each child had an adequate understanding of alcohol, the interview included a series of screening questions and probes (e.g., asking the child to provide examples of alcoholic beverages) prior to the alcohol-related questions. Children who

demonstrated poor understanding of alcohol were not interviewed further and these data were coded as missing in the analyses. Based on research pointing to a difference in children's ability to provide accurate information in response to subjective versus objective questions (Taber, 2010) interview items pertaining to children's *concerns* about parental alcohol were not included in the derived index score.

Parent-report and Observational Measures of Deficient Parenting

Care Neglect

The Care Neglect Index (c.f. Knutson et al., 2004; Knutson et al., 2005) is a 49-item summative index comprised of multi-method and multi-source indicators, including parent report during the home interview, objective observer ratings of the household (e.g., child does not have a toothbrush), and immediate environmental conditions that could occasion social (inadequate living space) and physical risks for the child (access to hazardous substances). Items were chosen based on their inclusion in the research literature on deficient parenting, home safety, and injury prevention (c.f. Leventhal et al., 2004; Peterson, Ewigman & Kivlahan, 1993; Tymchuk Lang, Dolyniuk, Berney-Ficklin & Spitz, 1999), as well as recommendations from the Interagency Task Force on Defining Child Maltreatment (see Sternberg et al., 2004). Proximal circumstances observed outside the home that could occasion *direct* risk to the child (e.g., broken glass, animal carcasses in the yard) were also included in the index. Although prior research (e.g., Knutson et al. 2005) has included items related to alcohol or drug-related paraphernalia in the home in the Care Neglect Index, this information was excluded to

avoid operational confounding of constructs (i.e., parental alcohol use). Items were scored in a direction to indicate neglect and summed.

Supervisory Neglect

Based on the work of Knutson et al. (2005) two concordance scores were derived to measure parental supervision. First, the Children's Experiences and Excitement Scale (*CEES*; Selner, 1992; Selner & Knutson, 1990) was administered independently to each parent and their child. The *CEES* consists of 44 slide images each depicting a child engaging in a range of activities. To minimize sex role responding, separate forms were used for girls and boys, depicting either all female or all male actors, respectively. Children were administered the *CEES* in interview format and parents completed a self-report form, each indicating whether the child had ever engaged in the depicted activity. For the present study, a disagreement score was calculated by adding discordant mother-child pairs (i.e., yes-no and no-yes) across all slides. In addition, a second score was generated reflecting a lack of parental knowledge regarding the child's activities (i.e., the number of items for which a parent responded "don't know"). The final *CEES* score was the summation of the discordance and inadequate knowledge scores.

A second index of supervisory neglect was derived from independent child and parent responses on the Children's Reinforcement Survey Schedule (*RSS*; Clement & Richard, 1976). In interview format children were asked to identify people with whom they spend the most time, places they spend the most time, their favorite food, toys with which they most often play, and activities they spend the most time doing. For each category they were also asked to indicate their desires, such as places they would like to spend more time or items they would like to acquire. Parents completed a paper-and-

pencil form regarding their children's current interests, activities, and desires in the same categories. Based on the work of Hall (1986), RSS agreement scores were calculated using the effective agreement for occurrence statistic between the child report and the parent report.

Recent research demonstrated that the RSS and CEES are predictive of distinct outcomes in childhood and may reflect different aspects of parental supervision (Knutson et al., 2010). While the RSS measures awareness of *routine* aspects of the child's interests and activities, the CEES measures parents' knowledge of their child's whereabouts and activities, including more deviant acts. In addition, previous research has demonstrated that the RSS may have better predictive validity in younger children, while the CEES may have stronger predictive validity in older children (Knutson et al., 2010). Thus, each supervision measure was used as an independent indicator of deficient parenting.

The adopted measures of supervision reflect a parent's awareness of the child's activities rather than monitoring or supervision, per se. Importantly, as noted by Dishion and McMahon (1998), the way in which parents monitor children changes across development, yet the function of monitoring is to facilitate awareness of the child's activities. Because the present sample includes preschool-aged and young school-aged children, measuring awareness seemed to be an appropriate assessment of supervisory neglect. Moreover, previous work has supported using this approach to measuring supervision with younger children (e.g., Knutson et al., 2005; Knutson et al., 2010).

Harsh Discipline

Based on the work of Knutson et al. (2005) four measures were used to assess harsh discipline. First, during the in-home interview ten questions were used to assess parents' use of abusive discipline practices in response to the child's misbehavior (e.g., child had bruises, broken bones, sutures, etc. from being disciplined). Responses were scored as 0 (did not occur) or 1 (occurred) and summed.

Next, during a laboratory session, parents completed the Analog Parenting Task (*APT*; Zaidi, Knutson & Mehm, 1989). The *APT* consists of 28 slides each depicting a child engaging in either a destructive, dangerous, rule violating or age-appropriate activity. Parents are asked to respond as if they were the depicted child's caretaker and indicate their emotional reaction, classify the behavior, and select a disciplinary response to each image from a closed set of choices (e.g., take away privileges, spank, strike other than spanking). Parents then indicate how many times they would allow the child to engage in the behavior before changing their disciplinary strategy and what the alternative would be. Two scores were obtained from the *APT*: a total physical discipline score and escalated discipline score. The physical discipline score reflects the frequency with which the mother's initial choice involved the use of physical discipline. The escalation score reflects the frequency of mothers' use of escalated discipline (cf. Knutson & Bower, 1994). Escalated discipline is conceptualized as either a shift from nonphysical discipline to physical discipline, or from minor physical discipline (e.g., spanking) to more severe physical discipline (e.g., striking with an object), in response to a child persisting in the behavior.

Finally, micro-social indices of parent-child interactions coded from videotaped interactions that occurred during a structured laboratory task were used to obtain objective observer ratings pertaining to the harsh discipline construct. The 45-minute task is comprised of a communication task, a social problem-solving task, discussion of an important issue regarding the child's behavior (selected by the parent), and free play followed by "clean-up." A professional team of coders at the Oregon Social Learning Center (OSLC) coded the videotapes using the Family and Peer Process Code (FPP; Stubbs, Crosby, Forgatch & Capaldi, 1998). Two dependent measures were derived from FPP coding: rate per minute frequencies of maternal aversive behaviors (e.g., anger, contempt) and negative physicals (e.g., hit, pinch, slap etc.) directed towards the child during the interaction. The aversive behavior score and negative physical score were combined using principal components factor analysis in SPSS 19 to generate a single FPP factor score.

Self-report Measures of Maternal Alcohol Use

The Michigan Alcoholism Screening Test (*MAST*; Selzer, 1971) was administered to assess mothers' lifetime histories of alcohol abuse. The *MAST* is a 25-item screener widely used to obtain information regarding lifetime alcohol-related problems and problem severity, with possible scores ranging from 0 to 52. Selzer (1971) developed a cut-off score of 5, which denotes that the respondent is likely to have alcohol-related problems.

The Parental Alcohol Experiences Scale (*PAE*; Windle, 1997) was administered to assess mothers' current drinking status. The *PAE* is used to evaluate 13 alcohol-related problems (social, occupational, interpersonal, legal and familial) occurring in the

past 6 months, with responses rated on a 6-point Likert-type scale, ranging from never to 10+ times. The PAE was designed to provide a continuous measure of alcohol problems in both clinical and nonclinical samples (c.f. Keller, Cummings & Davies, 2005), and can be used to obtain information that might be obscured on measures assessing only more severe drinking-related problems such as the MAST.

Behavioral Outcome Measures

Children's disruptive behavior problems and internalizing behavior problems were assessed during the first and second years of participation. At each time-point, data were collected from mothers and research assistants.

Disruptive Behavior

First, mothers completed a modified version of the Direct and Indirect Aggression Scale (DIAS; Björkqvist Lagerspetz, & Osterman, 1992) during each year of the study. Originally developed as a peer-nomination instrument, the DIAS was reformatted (with permission of the authors) as a structured interview with parents. The DIAS includes 24 items assessing the frequency with which the target child engages in either direct (e.g., hitting, pushing, yelling, name-calling) or indirect (e.g., gossiping, excluding peers from peer group) aggression during conflicts with other children. Respondents are asked to indicate the frequency of each behavior, on a 5-point Likert-type scale ranging from 0 ("Never") to 4 ("Always"). The Verbal Aggression (five items) and Physical Aggression (seven items) subscales were used to assess children's aggressive behaviors.

Second, the Children's Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) was administered to assess childhood problem behaviors and concerns as rated by

mothers. Items are scored 0 to 2, with higher scores reflecting higher levels of endorsement of the items, and total scores are converted to T-scores based on age and gender of the child. Due to the age range of the sample, separate age-based forms of the CBCL were used: one for children 5 years old or younger that consists of 100 items, and one for children 6 years old and older that consists of 112 items. Although the use of raw scores has been recommended for research purposes (Achenbach, 1991), it was necessary to use *t*-scores in the present study because both versions of the CBCL were administered. In addition, these two versions include slightly different syndrome scales. Thus, rather than using total scores on the Externalizing Problems scale, which would provide somewhat different measures of behavior in younger versus older children, ratings on the Aggressive Behavior scale were used in order to maintain a consistent measure of disruptive behavior across the age range. This scale assesses a range of child's disruptive behavior including aggression, disobedience, and emotional reactivity (e.g., angry moods, stubbornness, and irritability).

Finally, during each laboratory session research assistant ratings of child behavior were completed. Seven items were used to establish an index of observed disruptive behavior: whether the child was positive toward interviewer, cooperative, angry-irritable, noncompliant, friendly toward his/her parents, whether the child struck his/her parent during the appointment or screamed/yelled during the appointment. Items were scored dichotomously as 0 (not observed) or 1 (observed) to reflect disruptive behavior. Because not all families attended the same number of sessions, ratings for each item were averaged across sessions and then summed. Most families attended between 4 and 6 sessions ($M = 4.85$, $SD = 0.92$), although the range was 2 to 7.

Internalizing Behavior

To measure children's internalizing behavior, the CBCL was used. As noted above, the syndrome scales vary slightly across the two age-based versions of the CBCL. Thus, rather than using total scores on the Internalizing Problems scale, mothers ratings on the Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints scales were used as measures of internalizing behavior. The Anxious/Depressed and Withdrawn/Depressed scales provide information regarding symptoms of anxiety (e.g., fearfulness, nervousness, worries) and depression (e.g., guilt, worthlessness, thoughts of self-harm). The Somatic Complaints scale provides information regarding the physiological symptoms, such as nightmares, nausea, fatigue, and aches and pains.

Research assistants also provided ratings of internalizing behavior during each year of the study when participants attended laboratory sessions. Four items were used to establish an index of observed internalizing behaviors: whether the child was withdrawn, reluctant to separate from parents, seemed anxious or fearful, and appeared sad, down or depressed. Items were scored dichotomously as 0 (not observed) or 1 (observed), so that higher scores reflected greater levels of internalizing behavior. Scores were averaged across the number of sessions completed within a year and summed.

Table 1. Demographic Information

| | Mother | Child |
|-------------------------------------------------|----------|-----------|
| Mean Age (SD) | 31 (6.5) | 6.2 (1.4) |
| Ethnicity | | |
| White (non-Hispanic) | 73.4% | 64.9% |
| Black | 15.4% | 14.6% |
| Latino/a | 6.3% | 7.7% |
| Multi-ethnic/ Multi-racial | 2% | 10.3% |
| Other (Native American, Asian/Pacific Islander) | 2.9% | 2.6% |
| Occupational Status | | |
| Unemployed/Homemaker | 31.4% | |
| Student | 12.9% | |
| Unskilled Laborer | 18.9% | |
| Semi-skilled Laborer | 12.9% | |
| Skilled Laborer | 16.6% | |
| Professional | 6.9% | |
| Educational Attainment | | |
| Some High School | 7.4% | |
| High School Diploma/ GED | 33.7% | |
| Some College | 39.4% | |
| Associates Degree | 9.1% | |
| Bachelor's Degree or above | 10.3% | |

CHAPTER VII

RESULTS

Preliminary analyses were conducted to identify potential problems related to violations of assumptions for the planned statistical tests. First, the distribution of each variable was examined to evaluate whether variables were normally distributed, with skewness < 2 and kurtosis < 5 . When departures from normality were identified, appropriate transformations were applied to the raw scores. Because of the presence of zero scores, a logarithmic transformation ($\ln [X + .5]$) was applied to all three measures of maternal alcohol use (i.e., MAST, PAE, children's reports), RA ratings of disruptive behavior in Year 2, and the FPP aversive interaction scores. For both APT measures, the logarithmic transformation was not sufficient due to more extreme kurtosis and skewness; thus, alternative transformations were tested until the distributions approached normality. An exponential transformation ($X^{1/7}$) was applied to the Initial Physical Discipline scores, and a square-root transformation was applied to the Total Escalation scores. After transformations were completed, all variables fell within the limits of skewness and kurtosis noted above. One exception was the FPP negative physical scores; the rate of mother-to-child negative physicals observed during the parent child interaction was very low, with only 9.6% of mothers engaging in any negative physical behavior. An exponential transformation was applied, and the transformed variable approached the limits of skewness and kurtosis for the planned statistical tests.

In the immediately following sections, descriptive data for the individual variables, as well as item-level information for each construct are provided. In addition, summary descriptive statistics for all measures are reported in Tables 2 and 3.

Care Neglect

Based on children's responses on the Family Activities Checklist 40% of children had experienced at least some care neglect related to spending time with their parents, with raw scores ranging from 0 to 4 ($M = 0.57$, $SD = 0.86$). Reports of children spending time with their mothers was similar on the CACI-2, with 39% of children reporting either "sometimes" or "never" going places with their mother. Regarding basic care, children reported that their hair was either "sometimes" (18.3%) or "never" (32.5%) brushed before school, they "sometimes" (23%) or "never" (7.2%) bathe, "sometimes" (16.8%) or "never" (11.9%) wear a coat when it's cold or rainy, "sometimes" (17.3%) or "never" (5.8%) brush their teeth, and 16.2% of children reported at least "sometimes" wearing dirty clothes to school. In addition, 30.3% of children reported "often" not having enough food to eat, and an additional 19.7% responded "some" in response to that question. With regard to educational aspects of neglect, 26% of children reported their parents "never" go to their school, 25.8% reported that their parents "never" talk to their teachers, and 15.3% reported "never" reading with their parents. With regard to medical neglect, 17.1% of children reported "never" having been to a dentist and 7.8% reported "never" having been to the doctor. Total care neglect raw scores on the CACI ranged from 0 to 14 ($M = 5.35$, $SD = 3.16$).

Total scores on the Care Neglect Index, based on mother reports and direct observations, ranged from 0 to 22 ($M = 7.26$, $SD = 3.85$). Commonly endorsed items by mothers were having no rules regarding the television (24.7%), no curfew on weekdays (23.6%) or weekends (36.4%), children sharing a toothbrush with someone else (14.2%), never having taken the child to the dentist (18.6%), allowing the child to sit in the front

seat of the car (13.4%) and being without heat when needed (10.9%). Commonly endorsed research assistant ratings of the home included the home being characterized by a marked lack of cleanliness (49.6%), potential access to hazardous chemicals in the home (40.4%), excessive clutter in the home (31.4%), excessive noise within the home (20.7%), garbage observed in the home (19.2%), and insufficient furniture (15.9%).

Supervisory Neglect

With regard to assessments of supervision based on the child's response to the CACI, raw scores ranged from 0 to 8 ($M = 2.96$, $SD = 1.78$). The majority of children (59.4%) reported that their parents knew their friends' parents either "some" or "not at all." In addition, 18.6% of children reported that their parents did not know their friends, 33.9% reported that there were no rules regarding the television, 12.7% reported going places they are not supposed to go, and 21% reported playing with peers they were not supposed to play. Within the semi-structured interview, approximately 40% of children described inadequate daytime supervision, yet only 4.4% described circumstances indicative of inadequate babysitters. Raw scores ranged from 0 to 4 ($M = 0.84$, $SD = 0.83$).

Maternal assessments of supervision were based on the two discordance scores from the RSS and the CEES. Discordance scores on the CEES ranged from 2 to 31 ($M = 11.39$, $SD = 3.93$). Thus, on average, children and parents either disagreed or the parent lacked knowledge about the child's behavior for 11 of the 44 activities depicted, suggesting relatively high levels of agreement. Closer examination of scores revealed that all mother-child dyads agreed at least 30% of the time and over half agreed 75% of the time. In contrast, parent-child agreement on the RSS was rather low, with the

agreement statistic ranging from .11 to .64 (1.0 would reflect perfect agreement) and a mean of 0.38. Of note, the mean RSS parent-child agreement in the current sample is comparable to that obtained from a clinical sample of parents with children diagnosed with Conduct Disorder (Hall, 1986).

Harsh Discipline

Children reported a range of experiences with harsh discipline, with total raw scores on the semi-structured interview ranging from 0 to 12 ($M = 1.77$, $SD = 2.30$). Regarding descriptions of their mothers' use of harsh discipline, 51% of children reported receiving spankings, 22% reported being spanked with an object, and 19% reported being hit in other ways. The percentages of children endorsing more severe forms of discipline (i.e., being hit with an object or hit in other ways) in the present sample are consistent with what has been reported in studies of other samples considered at elevated risk for maltreatment (e.g., Everson et al., 2008). Reports on the CACI-2 were similar, with the majority of children (62.7%) reporting that their mother yells and 40% reporting that their mother spansks. Raw scores ranged from 0 to 4 ($M = 1.44$, $SD = 1.20$).

With regard to maternal-report measures of punitive discipline, on the APT, 19.2% of mothers reported that they would use physical discipline at least once as an initial response to a child's misbehavior, and 41.5% endorsed a shift to physical discipline (or increasing the physicality) if the child's behavior persisted. Overall, total physical discipline scores ranged from 0 to 12 ($M = .54$, $SD = 1.52$) and total escalation scores range from 0 to 19 ($M = 2.24$, $SD = 3.76$). During the in-home interview, although 80% of parents reported spanking their children at some point, only 11% reported spanking during the previous week. Rates were similar for disciplinary acts such as using

a spanking aid (13.6%), leaving a red mark (11.4%), washing the child's mouth out with soap, or using oral hot sauce (15.4%). Less commonly endorsed acts were restraining the child (6.3%), leaving a bruise after disciplining (4%), and locking the child in a closet, forcing the child to exercise, or requiring medical care due to discipline (each occurred < 1%). No parents endorsed breaking bones or leaving injuries that required sutures. Total abusive discipline scores ranged from 0 to 7 ($M = 2.2$, $SD = 1.39$). In order to compare mothers' reports of abusive discipline with children's reports of discipline, data were recoded dichotomously to reflect any physical discipline or no physical discipline. Results of a chi-square comparison were not significant, and this was likely due to the low base-rate of mothers who reported using no physical discipline ($n = 38$). Finally, very low levels of mother-to-child aversive behavior were coded from the video records obtained during structured laboratory interactions, with mean scores of total aversiveness falling below one for aversive behavior and near zero for negative physical behaviors.

The abusive discipline score, APT physical discipline score, APT escalation score, and factor-analytic combined FPP observation score were combined to generate a single harsh discipline score using principal components factor analysis in SPSS 19.0. All indicators loaded on a single factor, and appeared to be adequate measures of the underlying harsh discipline construct, with variance estimates ranging from 12% to 59%. Although the underlying construct explained only 7% of the variance in the FPP factor score, this likely reflects that the FPP indicator was based on laboratory observational data with a low base rate of physical encounters whereas the other three were based on maternal self-report.

Maternal Alcohol Use

Because the measure to assess children's awareness of maternal alcohol use was added to the study protocol after data collection commenced, only a portion of the current sample was administered the interview ($n = 206$). Group comparisons between children to whom the interview was administered ($n = 206$) and those who were not interviewed ($n = 144$), revealed no significant differences in age, gender, parental composition, or race of the child (see Table 4). With regard to differences on the outcome variables, only one comparison was statistically significant – children who completed the interview had lower mean levels of verbal aggression as rated by their mothers on the DIAS. Overall, the pattern suggests that the DIAS difference is likely to be a Type I error and there were no systematic differences between the interviewed children and those who were not interviewed. Thus, the missing scores would not preclude Full Information Maximum Likelihood (FIML) tests of hypothesized relations.

Approximately 80% of the children interviewed demonstrated adequate knowledge of alcohol to continue the interview; the interview was discontinued with the other 20% of children. The mean score for children who completed the interview was .66 ($SD = 1.02$, $n = 164$), suggesting rather low levels of exposure/awareness of maternal alcohol use, although total scores ranged from 0 to 5. Of those children who demonstrated adequate knowledge about alcohol to continue the interview, 10% identified alcohol as a beverage in their refrigerator, 13% identified an alcoholic beverage as their mother's favorite drink, 13% reported their mother going out to the bar, 7% reported their mother had been in trouble due to drinking, 7% reported that their mother hid alcohol in the house, 14% reported asking their mother to stop drinking, and 4%

reported riding in the car while their mother was drinking and driving. Internal consistency on this measure was low ($\alpha = .513$), although this is not surprising considering that the number of items influences estimation of reliability and this effect is particularly noticeable when the number of items is below seven (Swales & McIntyre-Bhatty, 2002).

With regard to mothers' self-reported drinking, MAST scores ($M = 3.95$, $SD = 7.26$) were consistent with those reported within at-risk community samples (e.g., El Sheikh, 2001; Ondersma, Delaney-Black, Covington, Nordstrom, & Sokol, 2006). Based on the recommended cut-off score of 5, approximately 24% of mothers scored in a range to suggest evidence of alcohol-related problems during their lifetime. Internal consistency for the MAST in the current sample was .85. Mean scores on the PAE ($M = 1.27$, $SD = 2.48$) were somewhat lower than what has been reported in a sample recruited through a number of community agencies and schools (Keller et al., 2005), with only 40% of mothers endorsing at least one current drinking-related problem. However, consistent with other research, commonly endorsed items included drinking alone (33%), regretting afterward the things done while drinking (16.4%), drinking to forget troubles (13.1%), and thinking about cutting down on drinking (11.2%). Internal consistency for the PAE in the current sample was .74.

Of note, because the PAE was added to the study protocol after data collection commenced, only a portion of the current sample was administered the measure ($n = 214$). Group comparisons were conducted to identify any demographic differences between mothers who completed the PAE and those who did not ($n = 136$). In addition, because the MAST is a theoretically related measure, group comparisons were conducted

to identify potential differences on MAST scores between mothers who completed the PAE and those who did not. Comparisons revealed no significant differences in age, education, occupational status, parental composition, race, or history of alcohol abuse as measured by the MAST (see Table 5). Thus, mothers who completed the PAE and those who did not complete the PAE were likely drawn from the same population and the missing scores would not preclude FIML tests of hypothesized relations.

Child Disruptive Behavior

Mean scores on the CBCL Aggressive Behavior subscale (Year 1 $M = 56.30$, $SD = 7.91$; Year 2 $M = 56.30$, $SD = 7.25$) fell near the population mean (within 1 SD of the mean), with only 15% of the sample falling in the borderline or clinically significant range, which is somewhat lower than what has been reported in other community samples (e.g., Keller, Cummings, Davies, & Mitchell, 2008). Cronbach's α for this measure was similar across age groups and study years: .92 (Year 1) and .94 (Year 2) for the younger children and .87 (Year 1) and .86 (Year 2) for the older children. The levels of aggression reported on the DIAS were similar to levels reported in previous research (Valles and Knutson, 2008), with mean scores ranging between 4 and 5 for both physical and verbal aggression in both years of the study. Cronbach's α for the two interview subscales during the first and second years of the study were .70 and .68 for physical aggression and .66 and .74 for verbal aggression.

With regard to disruptive behavior observed during laboratory sessions, scores ranged from 0 to 7 (Year 1 $M = 1.43$, $SD = 1.83$; Year 2 $M = .67$, $SD = 1.17$). In the first year of the study 30% of children were rated as being uncooperative with interviewers during at least one session, 24% were rated as noncompliant toward their parents, 23%

were rated as unfriendly toward interviewers, and 21% were rated as angry or irritable. Less frequently, children were observed to display a tantrum (18%) or hit their parent (12%). Results were similar in the second year of the study, although ratings of disruptive behavior were generally lower. The most frequently observed behaviors were being uncooperative with the interviewer (16%) and angry or irritable (13%). Cronbach's α for the disruptive behavior scale were .78 (Year 1) and .66 (Year 2).

Child Internalizing Behavior

In both years of the study mean scores on the CBCL Anxious/Depressed (Year 1 $M = 54.94$, $SD = 7.08$; Year 2 $M = 54.88$, $SD = 6.36$), Somatic Complaints (Year 1 $M = 54.95$, $SD = 6.46$; Year 2 $M = 54.97$, $SD = 6.37$), and Withdrawn/Depressed (Year 1 $M = 55.4$, $SD = 6.1$; Year 2 $M = 55.32$, $SD = 5.89$) subscales all fell near the population mean (within 1 SD of the mean). Approximately 11% or less of the sample scored in the borderline or clinically significant ranges on any of the internalizing subscales in either year of the study. Cronbach's α for the Anxious/Depressed, Somatic Complaints, and Withdrawn/Depressed subscales in Year 1 were .78, .64, and .58 for younger children, and .74, .65, and .69 for older children. In Year 2, Cronbach's α for each subscale was somewhat lower for younger children (.69, .57, and .45), and generally remained the same for the older children (.74, .68, and .62).

Rates of internalizing behavior observed during laboratory sessions were relatively low in both years of the study, with mean scores below 1. During the first year of the study 29% of children were rated as shy during at least one laboratory session, 18% were rated as sad, 14% were rated as anxious, and 15% were observed to be reluctant to separate from their caregiver. Ratings of shyness and sadness were similar in

the second year of the study, although only 7% of children were rated as anxious and 4% as reluctant to separate. In both years of the study, Cronbach's α for the internalizing behavior scale was .53.

Cross-Informant Agreement

Cross-informant correlations between children and their mothers for each of the parenting variables were low, albeit statistically significant: care neglect ($r = .21, p < .001$), harsh discipline factor score with child-report index of harsh discipline ($r = .17, p < .01$), RSS measure of poor supervision with the child-report supervision index ($r = .16, p < .01$), and CEES measure of poor supervision with the child-report supervision index ($r = .23, p < .001$). Parent-child agreement regarding current maternal alcohol abuse was higher, falling within the moderate range ($r = .34, p < .001$).

Structural Equation Modeling

The study hypotheses were tested using structural equation modeling (SEM) in Amos version 21.0. The hypothesized model purported that deficient parenting and maternal alcohol abuse would lead to increased levels of internalizing and disruptive behaviors concurrently and one year later. In addition, it was hypothesized that age would moderate the link between parenting and child behavior. SEM is a robust method for analyzing multivariate data (Bollen, 1989), and is particularly suited for analyzing the multi-method multisource covariance matrices available for the study, because it can control for method and sources biases. Structural paths were estimated using the FIML estimator, which allows for the presence of missing data, as it utilizes a covariance matrix to take advantage of all observed data in estimating the model parameters. Specifically,

FIML is able to accommodate missingness without using a list-wise deletion approach, assuming data are missing at random (MAR). Because MAR cannot be tested directly (Shaefer & Olsen, 1998), the pattern of missingness was closely examined in order to establish MAR in the present sample. In addition, because the PAE and the alcohol exposure interview were added to the study protocol after data collection had commenced, group comparisons were conducted and revealed no systematic differences between families who completed those measures and families who were missing data from those measures. FIML was also chosen because this approach has been shown to produce less biased parameter estimates in the context of structural equation modeling as compared to other methods for handling missing data (Carter, 2006; Schafer, 1997).

Multiple fit indices were used to evaluate model fit for the measurement and structural models including, the chi-square test statistic (non-significant at $p < .05$), chi-square to degrees of freedom ratio (χ^2/df ; Wheaton, Muthen, Alwin & Summers, 1977), the comparative fit index (CFI; Bentler, 1990), root-mean-squared error of approximation (RMSEA; Browne & Cudeck, 1993), and the incremental fit index (IFI; Bollen, 1989). Because the statistics are based on different criteria, taken together they provide a more comprehensive assessment of model fit. Based on the guidelines proposed by Hu and Bentler (1999) and Browne and Cudeck (1993), the following criteria were used to determine adequacy of fit: 1) CFI/IFI $> .90$ represents good model fit and CFI/IFI $\geq .95$ represents excellent model fit, 2) RMSEA $< .05$ represents good fit and values ranging from .06 to .08 represent adequate fit, and 3) χ^2/df values below 2 indicate adequate fit. Recommendations proposed by Cheung and Rensvold (2002) were used to evaluate measurement invariance, with critical values indicating that the null hypothesis of

invariance should not be rejected: Δ CFI ($\leq -.01$), Δ Gamma hat ($\leq -.001$), and Δ McDonald's Noncentrality Index ($\leq -.02$). Factor loadings and path coefficients reported in the succeeding analyses represent standardized values.

Measurement Model

Prior to conducting the path analyses to examine the relations among the latent variables, confirmatory factor analyses (CFA) were conducted to establish the adequacy of the measurement model. Test of the measurement model provides information as to whether the theoretical constructs were adequately measured. As noted previously, harsh discipline, supervision, and care neglect were hypothesized to be components of an underlying construct of deficient parenting, consistent with the conceptualization proposed by Herrenkohl and Herrenkohl (2007). First, the zero-order correlations among indicator variables were examined (see Table 6). Correlations among the parent-report and observational indicators of parenting were either low ($r < .30$) or non-significant, and a similar pattern was noted for correlations among the child-report indicators of deficient parenting. The hypothesized model of deficient parenting was tested using a CFA in which a 3-factor latent variable (child reported parenting) and 4-factor latent variable (parent-reported/observed parenting) were estimated simultaneously (see Figure 1). In order to achieve an adequate model fit, it was necessary to free two covariance terms – the error covariance between the two harsh discipline indicators, and the error covariance between the two neglect indicators. Although this resulted in adequate global model fit ($\chi^2 = 13.53_{(350)}$, $p = .26$; CFI = .964, IFI = .971, $\chi^2/df = 1.23$, RMSEA = .026), examination of the component fit revealed that the variances for both latent variables were non-significant ($p > .05$), suggesting the lack of an underlying construct of deficient

parenting. Thus, the data did not support the hypothesized conceptualization of a general multicomponent construct of deficient parenting. Consequently, in the final path model measures of the three subtypes of deficient parenting were simultaneously examined as independent predictors of children's behavioral outcomes rather than a test of the general construct model of deficient parenting.

It was also necessary to establish that the disruptive behavior and internalizing behavior constructs were adequately measured. The disruptive behavior construct was based on the CBCL Aggressive Behavior scale, the DIAS Physical Aggression subscale, the DIAS Verbal Aggression subscale and RA ratings of disruptive behavior. The internalizing behavior construct was based on the CBCL Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints scales, and RA ratings of internalizing behavior. In order to establish the adequacy of this portion of the measurement model separate CFA's were conducted for behavioral outcomes in the first and second years of participation; in each CFA two 4-indicator latent variables (disruptive behavior and internalizing behavior) were estimated simultaneously. Because the two DIAS indicators were expected to share significant error variance, measurement errors were allowed to covary. Similarly, to account for shared source variance of research assistant ratings of disruptive and internalizing behaviors, measurement errors based on RA ratings were allowed to covary.

Results of the CFA for children's behavioral problems during the initial year (see Figure 2) suggested excellent overall fit to the data ($\chi^2 = 20.62_{(350)}$, $p = .24$, $\chi^2/df = 1.21$, CFI = .995, IFI = .995, RMSEA = .025), providing support for the adequacy of the outcome portion of the measurement model. Examination of the component fit revealed

that all factor loadings were significant at the $p \leq .001$ and the disruptive and internalizing behavior constructs were significantly correlated ($r = .80; p < .001$). Notable variability was observed in the R^2 values, and results suggested that maternal-report measures were better indicators of children's behaviors in the first year of the study (R^2 ranged from .21 to .80) as compared to research assistants' ratings ($R^2 = .07$ and .02 for disruptive behavior and internalizing behavior, respectively). Results of the CFA for children's behavioral problems during the second year (see Figure 3) suggested excellent overall fit to the data ($\chi^2 = 21.59_{(350)}, p = .20, \chi^2/df = 1.27, CFI = .99, IFI = .99, RMSEA = .028$). All factor loadings were significant at the $p \leq .001$ except for the research assistant ratings. RA ratings of internalizing behavior did not significantly load on the internalizing latent variable ($p = .25$). Moreover, R^2 values suggested that RA ratings were poor indicators of the latent variables ($R^2 = .02$ and .01 for disruptive behavior and internalizing behavior, respectively). The maternal-report measures were statistically better indicators, with R^2 values ranging from .18 to .85.

Based on the results of these three CFAs, an alternative strategy was adopted for all remaining analyses of the hypothesized model of parenting and maternal alcohol abuse influencing the behavior problems of young children. A new structural model was tested, which included ten observed variables (7 parenting measures and 3 maternal alcohol use measures), and two latent variables (child internalizing behavior and disruptive behavior) each measured in Year 1 and Year 2 of the study.

Measurement Invariance

Prior to including the four latent variables of child behavior in the planned structural model test of the hypothesized relations, metric invariance was evaluated to

determine whether the measures of disruptive behavior and internalizing behavior were related to the latent variables in exactly the same way across the two age groups. Measurement invariance is evaluated using a sequential testing procedure to assess various levels of invariance (Steenkamp & Baumgartner, 1998). First configural invariance must be established, which tests whether the proposed structure is valid across groups. For the configural model, all paths are free to vary across both age groups, and the resulting model is used as basis for comparison for testing further levels of invariance. Next, metric invariance is tested to determine whether the pattern of factor loadings for each latent variable is the same across groups; that is, whether each observed indicator (e.g., DIAS, CBCL, RA ratings) relates to the latent variable (e.g., disruptive behavior) in the same way across groups. Thus, for the metric model, all factor loadings are constrained to be equal across groups. For the present study, the sample was divided into two age groups based on the child's age at the time of enrollment: 4-to-5-year-olds, and 6-to-8-year-olds. Nested chi-square comparisons were then conducted to compare results of the configural model with results of the metric model.

With regard to disruptive behavior and internalizing behavior during the first year of the study, results of the CFA for the configural model revealed a significant chi-square ($\chi^2 = 69.60_{(174, 176)}, df = 34, p = .00$), yet the other fit indices suggested that the model form was invariant across the two age groups ($\chi^2/df = 2.05$, CFI = .956, IFI = .958, RMSEA = .055). The metric model was then estimated and results of the nested chi-square comparison provided support for metric invariance, yielding a non-significant chi-square ($\chi^2 = 6.55, df = 6, p = .36$), $\Delta CFI = -.001$, $\Delta \text{Gamma hat} = -.001$, and $\Delta NCI = -.001$.

Metric invariance of disruptive behavior and internalizing behavior during the second year of the study was evaluated next. Results of the CFA for the configural model revealed a significant chi-square ($\chi^2 = 48.66_{(174, 176)}, df = 34, p = .05$), although the other fit indices suggested the model form was invariant across groups ($\chi^2/df = 1.43$, CFI = .968, IFI = .97, RMSEA = .035). A second CFA was conducted to estimate the metric model, and results of the nested chi-square comparison provided support for metric invariance, yielding a non-significant chi-square ($\chi^2 = 7.73, df = 6, p = .22$), $\Delta CFI = -.004$, $\Delta \text{Gamma hat} = -.002$, and $\Delta \text{NCI} = -.005$. The establishment of metric invariance for all four latent variables provided justification to combine both age groups into a single sample when testing the structural model, rather than conducting independent analyses for each age group.

Structural Model

Prior to testing age as a moderator of the link between deficient parenting and child outcomes, it was first necessary to demonstrate that the structural model adequately fit the data. Thus, the fully specified structural model was tested, examining the relations among all observed (child- and parent-reported care neglect, poor supervision, harsh discipline, and maternal alcohol abuse) and latent (disruptive and internalizing behavior) variables. In order to achieve an adequate model fit, it was necessary to free the covariances between error terms for the same indicators across time (i.e., Anxious/Depressed in Year 1 with Anxious/Depressed in Year 2). Results of the structural model (see Figure 4) revealed an adequate global model fit ($\chi^2 = 361.83_{(350)}, p = .00$; CFI = .932, IFI = .936, $\chi^2/df = 1.59$, RMSEA = .04), justifying the multiple group analyses with the younger and older children.

Multiple Group Analysis

Given the probable influence of children's age on the link between parenting and behavioral outcomes, age was examined as a moderator. In order to examine the potential moderation effects of age, multiple group modeling was employed, allowing for a comparison of model parameters across groups (e.g., younger and older children), as well as permitting an examination of differences in the regression paths between age groups. A sequential testing procedure was used to assess invariance across age groups. First, the configural model was tested, in which all structural coefficients were free to vary across groups. Because measurement invariance of the latent variables had been established, all factor loadings were constrained to be equal across age groups. The resulting fit indices were somewhat varied, although in general, the model demonstrated poor fit to the data ($\chi^2 = 699.43_{(350)}, p = .00$; CFI = .888, IFI = .899, $\chi^2/df = 1.50$, RMSEA = .038).

As such, it was necessary to respecify the model in order to achieve adequate fit to the data. The approach to model respecification was primarily theory driven, relying on available evidence within the research literature to identify specific paths to be estimated. For example, previous research has demonstrated that neglected children are more withdrawn (Hildyard & Wolfe, 2002); thus, a path from care neglect to the "withdrawn/depressed" indicator was estimated. In addition, because there might be differences in outcomes based on different informants (e.g., RA ratings versus mothers' ratings of children's behavior), the relation between parenting and RA ratings of behavior were also examined. Additional paths were then estimated using a step-by-step approach, freeing one path at a time.

The newly specified model was estimated (see Figure 5), and the configural model, in which all structural coefficients were free to vary across groups, was tested first. Results revealed an adequate global model fit ($\chi^2 = 642.83_{(350)}, p = .00$; CFI = .907, IFI = .917, $\chi^2/df = 1.44$, RMSEA = .035). Next, a model in which structural coefficients were constrained to be equal across age groups was tested ($\chi^2 = 697.59_{(350)}, p = .00$; CFI = .896, IFI = .906, $\chi^2/df = 1.45$, RMSEA = .036). A nested chi-square comparison between the fully constrained and configural models yielded a significant chi-square ($\chi^2 = 57.76, df = 32, p = .007$), Δ CFI = -.011, Δ Gamma hat = -.008, and Δ NCI = -.04. Thus, results suggest that constraining all structural coefficients to be equal across age groups resulted in an overall decrement in model fit.

Finally, a model of partial invariance was tested, as a number of paths were hypothesized to vary across age group (e.g., a stronger link between supervisory neglect and disruptive behaviors among older children, a stronger link between child-reported alcohol exposure and behavioral outcomes, and a stronger link between deficient parenting and internalizing behaviors in older children). Additional paths were freed to vary across groups as needed to achieve adequate model fit. Specifically, it was necessary to free the paths from child-reported parenting variables to disruptive behavior in Year 1, the paths from maternal alcohol abuse to internalizing and disruptive behaviors, the paths from the multisource harsh discipline index and RSS supervision to concurrent disruptive behavior, the path from the multisource care neglect index to later disruptive behaviors, and the path from child-reported neglect to withdrawal in Year 2. Results revealed an adequate global model fit ($\chi^2 = 670.79_{(350)}, p = .00$; CFI = .904, IFI = .914, $\chi^2/df = 1.42$, RMSEA = .035). In addition, a nested chi-square comparison between

the partially constrained and configural models was conducted, and provided support for partial structural invariance, yielding a non-significant chi-square ($\chi^2 = 27.96$, $df = 23$, $p = .40$), $\Delta CFI = -.003$, $\Delta \text{Gamma hat} = -.002$, and $\Delta NCI = -.01$ (see Figures 6 and 7).

The final multiple-group model is depicted in Figures 6 and 7, with the significant paths shown for younger and older children, respectively. There were a number of differences among structural paths between age groups, suggesting some age-based moderation. As shown in Figure 7, older children receiving higher levels of punitive discipline demonstrated higher levels of concurrent disruptive behavior ($\beta = 0.29$, $p < .001$). In addition, among older children, the multisource care neglect index was associated with higher levels of later disruptive behavior ($\beta = 0.16$, $p < .05$). In contrast, as shown in Figure 6, younger children reporting higher levels of care neglect demonstrated higher levels of concurrent disruptive behavior ($\beta = 0.11$, $p = .079$). Younger children whose mothers reported higher levels of current alcohol abuse also showed higher levels of concurrent disruptive ($\beta = 0.20$, $p = .051$) and internalizing ($\beta = 0.20$, $p = .054$) behaviors, although these links were marginal. In contrast, among older children, mothers with higher levels of current alcohol abuse rated their children lower on concurrent internalizing behavior ($\beta = -0.19$, $p = .058$); there was no significant relation between current maternal alcohol abuse and disruptive behavior.

Overall, there was partial support for the specific hypotheses related to age-based moderation. First, the hypothesis that deficient parenting and internalizing behaviors would be more strongly associated among older children was not supported by the data. Younger rather than older children who reported higher levels of care neglect demonstrated significantly higher levels of withdrawal/depression symptoms in Year 2 (β

= 0.20, $p < .01$). In addition, harsh discipline was marginally associated with increased levels of concurrent internalizing behavior in both age groups ($p = .09$). Similarly, the link between supervision and internalizing behavior was consistent across age groups. Children with higher levels of supervisory neglect as measured by the CEES discordance score, showed lower levels of internalizing behaviors in Year 2 ($\beta = -0.12$ and $\beta = -0.11$, $p < .05$). In contrast, higher levels of supervisory neglect as measured by the RSS discordance score were linked to higher levels of anxiety in Year 2 ($\beta = 0.09$ and $\beta = 0.10$, $p < .05$).

There was partial support for the hypothesis that supervisory neglect would be more strongly associated with disruptive behavior problems among older children. Although neither the RSS nor CEES measure of poor supervision were linked to later disruptive behaviors in either age group, older children reporting higher levels of supervisory neglect demonstrated higher levels of concurrent disruptive behavior ($\beta = 0.22$, $p < .01$). Last, the hypothesis that child-reported exposure to maternal alcohol abuse and behavioral outcomes would be stronger in older children was not supported. In contrast, greater exposure to maternal alcohol abuse was associated with higher levels of concurrent disruptive behavior in both age groups ($\beta = 0.29$, $p < .001$), and exposure was not associated with internalizing behavior.

As shown in Figures 6 and 7, there were also a number of significant findings that held constant across age groups and were, therefore, not moderated by child age. First, mothers who reported higher levels of alcohol abuse in their lifetime had children who demonstrated higher levels of disruptive behavior in Year 1 ($\beta = 0.14$ and $\beta = 0.15$, $p < .05$, for younger and older children, respectively) and higher levels of both disruptive

behavior ($\beta = 0.13$ and $\beta = 0.14, p < .05$) and internalizing behavior in Year 2 ($\beta = 0.15$ and $\beta = 0.18, p < .01$). Children reporting higher levels of care neglect demonstrated greater levels of disruptive behavior as rated by RAs in Year 1 ($\beta = 0.13$ and $\beta = 0.16, p < .01$). Finally, there was a significant relation between ratings of the child's behavior across the two annual assessments for disruptive ($\beta = 0.78$ and $\beta = 0.77, p < .001$) and internalizing ($\beta = 0.69$ and $\beta = 0.72, p < .001$) behaviors.

Table 2. Descriptive Data of Parenting and Alcohol Measures

| Construct/Measure | N | Mean | SD | Range |
|---------------------------------------------------|-----|-------|------|-------------|
| <i>Child-report Measures</i> | | | | |
| CACI Care Neglect | 293 | 5.35 | 3.16 | 0 – 14 |
| Family Activities Checklist | 348 | 0.57 | 0.86 | 0 – 4 |
| CACI Supervisory Neglect | 291 | 2.96 | 1.78 | 0 – 8 |
| Supervisory Neglect Interview | 205 | 0.84 | 0.83 | 0 – 4 |
| CACI Harsh Discipline | 295 | 1.44 | 1.20 | 0 – 4 |
| Harsh Discipline Interview | 345 | 1.77 | 2.30 | 0 – 12 |
| Maternal Alcohol Abuse Exposure | 164 | 0.66 | 1.02 | 0 – 5 |
| <i>Parent-report & Observational Measures</i> | | | | |
| Care Neglect Index | 350 | 7.26 | 3.85 | 0 – 22 |
| *CEES | 348 | 11.39 | 3.93 | 2 – 31 |
| *RSS | 348 | 0.62 | 0.09 | 0.36 – 0.89 |
| <i>Harsh Discipline Measures</i> | | | | |
| APT – Physical Discipline | 333 | 0.54 | 1.52 | 0 – 12 |
| APT – Escalation | 328 | 2.24 | 3.76 | 0 – 22 |
| FPP coded Aversive | 303 | 0.96 | 1.01 | 0 – 7.12 |
| FPP coded Aversive Physicals | 303 | 0.03 | 0.11 | 0 – 0.82 |
| Abusive Discipline Index | 343 | 2.20 | 1.39 | 0 – 7 |
| Michigan Alcohol Screening Test | 340 | 3.95 | 7.26 | 0 – 47 |
| Parental Alcohol Experiences Scale | 214 | 1.27 | 2.48 | 0 – 16 |

Note. CACI = Computer-Assisted Child Interview; CEES = Children's Experiences and Excitement Scale; RSS = Reinforcement Survey Schedule; APT = Analog Parenting Task; FPP = Family Peer Process Code. All values are raw scores. In the final analyses, FPP scores were combined into a single factor score.

*Reported scores are reflected to represent measure of mother-child disagreement

Table 3. Descriptive Data of Behavioral Measures

| | N | Mean | SD | Range |
|-------------------------------|-----|-------|------|---------|
| Initial Year Ratings | | | | |
| <i>Externalizing</i> | | | | |
| DIAS Physical Aggression | 332 | 4.36 | 3.43 | 0 – 21 |
| DIAS Verbal Aggression | 333 | 4.74 | 3.30 | 0 – 16 |
| CBCL – Aggressive Behavior | 346 | 56.30 | 7.91 | 50 – 98 |
| RA Disruptive Behavior | 348 | 1.43 | 1.83 | 0 – 7 |
| <i>Internalizing</i> | | | | |
| CBCL – Anxious/Depressed | 346 | 54.94 | 7.08 | 50 – 96 |
| CBCL – Withdrawn/Depressed | 346 | 55.40 | 6.10 | 50 – 85 |
| CBCL – Somatic Complaints | 346 | 54.95 | 6.46 | 50 – 82 |
| RA Internalizing Behavior | 348 | 0.75 | 1.0 | 0 – 4 |
| Follow-up Year Ratings | | | | |
| <i>Externalizing</i> | | | | |
| DIAS Physical Aggression | 265 | 4.01 | 3.24 | 0 – 17 |
| DIAS Verbal Aggression | 266 | 5.20 | 3.70 | 0 – 17 |
| CBCL – Aggressive Behavior | 267 | 56.30 | 7.25 | 50 – 84 |
| RA Disruptive Behavior | 272 | 0.67 | 1.17 | 0 – 7 |
| <i>Internalizing</i> | | | | |
| CBCL – Anxious/Depressed | 267 | 54.88 | 6.36 | 50 – 82 |
| CBCL – Withdrawn/Depressed | 267 | 55.32 | 5.89 | 50 – 79 |
| CBCL – Somatic Complaints | 267 | 54.97 | 6.37 | 50 – 80 |
| RA Internalizing Behavior | 272 | 0.48 | 0.82 | 0 – 4 |

Note. CBCL = Child Behavior Checklist; DIAS = Direct and Indirect Aggression Scale; RA = Research Assistant. All CBCL scores are t-scores; all other values are raw scores.

Table 4. Comparison of Children Interviewed and Not Interviewed Regarding Maternal Alcohol Abuse on Demographic and Outcome Variables Using *t*-tests and Chi-square Tests

| | Interviewed (n = 206) | Not Interviewed (n = 144) | χ^2 | <i>t</i> | <i>p</i> |
|---------------------------|--------------------------|---------------------------------|----------|----------|----------|
| Index | Mean (SD) | Mean (SD) | | | |
| Child Age | 6.1 (1.3) | 6.3 (1.4) | | 1.13 | NS |
| Maternal Age | 31 (6.6) | 30.8 (6.3) | | -0.28 | NS |
| Gender | | | 0.04 | | NS |
| Male | 98 | 70 | | | |
| Female | 108 | 74 | | | |
| Child Race | | | 2.26 | | NS |
| White | 127 | 100 | | | |
| Non-white | 79 | 44 | | | |
| Parental Composition | | | 0.79 | | NS |
| Single Parent | 87 | 54 | | | |
| Two Parents | 119 | 90 | | | |
| CBCL Anxious/Depressed | 54.8 (7.4) | 55.1 (6.7) | | 0.41 | NS |
| CBCL Withdrawn/Depressed | 55.3 (6.4) | 55.5 (5.6) | | 0.39 | NS |
| CBCL Somaticization | 55.5 (6.6) | 54.2 (6.2) | | -1.81 | .07 |
| RA Internalizing Behavior | 0.8 (1.1) | 0.7 (0.9) | | -0.87 | NS |
| CBCL Aggressive Behavior | 56.4 (8.4) | 56.1 (7.2) | | -0.34 | NS |
| DIAS Physical Aggression | 4.2 (3.4) | 4.6 (3.5) | | 1.03 | NS |
| DIAS Verbal Aggression | 4.4 (3.2) | 5.3 (3.4) | | 2.34 | .02 |
| RA Externalizing Behavior | 1.5 (1.8) | 1.3 (1.9) | | -0.92 | NS |

Note. CBCL = Child Behavior Checklist; DIAS = Direct and Indirect Aggression Scale; RA = Research Assistant.

Table 5. Comparison of Mothers Who Completed the Parental Alcohol Experiences Scale and Mothers Who Did Not on Demographic Variables Using *t*-tests and Chi-square Tests

| Index | Interviewed | Not | χ^2 | <i>t</i> | <i>p</i> |
|-------------------------------|-------------|--------------------------|----------|----------|----------|
| | (n = 206) | Interviewed (n = 144) | | | |
| | Mean (SD) | Mean (SD) | | | |
| Age | 31 (6.6) | 30.8 (6.3) | | .32 | NS |
| Race | | | 2.32 | | NS |
| White | 151 | 106 | | | |
| Non-white | 63 | 30 | | | |
| Parental Composition | | | 0.16 | | NS |
| Single Parent | 88 | 53 | | | |
| Two Parents | 126 | 83 | | | |
| Education | | | 2.34 | | NS |
| Some High School | 18 | 8 | | | |
| High School Diploma/GED | 73 | 45 | | | |
| Some College | 81 | 57 | | | |
| Associates Degree | 22 | 10 | | | |
| Bachelor's Degree or Above | 20 | 16 | | | |
| Occupational Status | | | 8.16 | | NS |
| Unemployed/Homemaker | 69 | 41 | | | |
| Student | 30 | 15 | | | |
| Unskilled Laborer | 35 | 31 | | | |
| Semi-skilled Laborer | 34 | 11 | | | |
| Skilled Laborer | 33 | 25 | | | |
| Professional | 12 | 12 | | | |
| MAST | 3.9 (7.3) | 4.0 (7.2) | | -0.04 | NS |
| CBCL Anxious/Depressed | 54.8 (7.4) | 55.1 (6.7) | | 0.41 | NS |
| CBCL Withdrawn/Depressed | 55.3 (6.4) | 55.5 (5.6) | | 0.39 | NS |
| CBCL Somaticization | 55.5 (6.6) | 54.2 (6.2) | | -1.81 | .07 |
| RA Internalizing Behavior | 0.8 (1.1) | 0.7 (0.9) | | -0.87 | NS |
| CBCL Aggressive Behavior | 56.4 (8.4) | 56.1 (7.2) | | -0.34 | NS |
| DIAS Physical Aggression | 4.2 (3.4) | 4.6 (3.5) | | 1.03 | NS |
| DIAS Verbal Aggression | 4.4 (3.2) | 5.3 (3.4) | | 2.34 | .02 |
| RA Externalizing Behavior | 1.5 (1.8) | 1.3 (1.9) | | -0.92 | NS |

Note. CBCL = Child Behavior Checklist; DIAS = Direct and Indirect Aggression Scale; MAST = Michigan Alcohol Screening Test; RA = Research Assistant.

Table 6. Zero-Order Correlations

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------------------------------|------------------|-------|-------|-------------------|------------------|-------|------------------|-------|------------------|-------|
| 1. Care Neglect Index | | | | | | | | | | |
| 2. CEES | .18** | | | | | | | | | |
| 3. RSS (reflected) | .03 | .14** | | | | | | | | |
| 4. APT Escalation | .11 ⁺ | .07 | .05 | | | | | | | |
| 5. APT Physical | .09 | .03 | .02 | .54** | | | | | | |
| 6. Abusive Discipline | .06 | .04 | .01 | .31** | .19** | | | | | |
| 7. FPP Aversive | .24** | .19** | .07 | .06 | .09 | .12* | | | | |
| 8. FPP Aversive Physicals | .11 ⁺ | .05 | .04 | .15** | .27** | .12* | .23** | | | |
| 9. MAST | .19** | .07 | -.02 | -.04 | -.04 | .04 | .11 [†] | .08 | | |
| 10. PAE | .08 | .07 | .11 | .01 | .01 | .08 | -.03 | -.04 | .26** | |
| 11. Care Neglect (child) | .21** | .08 | .02 | .05 | -.01 | .07 | .04 | .06 | -.05 | .07 |
| 12. Supervisory Neglect (child) | .11 [†] | .23** | .16** | -.08 | -.03 | -.08 | .07 | .00 | -.02 | -.02 |
| 13. Harsh Discipline (child) | .02 | .02 | .05 | .07 | .03 | .25** | .10 [†] | .07 | .13* | .07 |
| 14. Child Exposure to Alcohol | .13 | .22** | .09 | .02 | -.05 | .05 | .14 | .05 | .04 | .34** |
| 15. CBCL Aggressive T1 | .13* | .09 | -.07 | .05 | .05 | .17** | .14* | .05 | .14** | .11 |
| 16. DIAS Physical T1 | .10 ⁺ | .19** | -.03 | .06 | .07 | .26** | .08 | .00 | .18** | .14* |
| 17. DIAS Verbal T1 | .14* | .11* | -.06 | .10 [†] | .09 [†] | .16** | .08 | .04 | .14* | .15* |
| 18. RA Disruptive T1 | .13* | .15** | .07 | -.11 [†] | -.03 | .07 | .22** | -.05 | .04 | -.06 |
| 19. CBCL Anxious T1 | .07 | .14* | -.03 | -.03 | .05 | .09 | .09 | .08 | .09 | .03 |
| 20. CBCL Withdrawn T1 | .11* | .13* | .04 | -.02 | .04 | .08 | .09 | .08 | .03 | .11 |
| 21. CBCL Somatic T1 | -.02 | .09 | .03 | .04 | .06 | .15** | .00 | .02 | .05 | .00 |
| 22. RA Internalizing T1 | .07 | .06 | -.08 | -.05 | -.03 | .00 | -.07 | -.06 | .02 | -.04 |
| 23. CBCL Aggressive T2 | .22** | .09 | .02 | .01 | .06 | .09 | .20** | .06 | .29** | .09 |
| 24. DIAS Physical T2 | .13* | .19** | .05 | .19* | .04 | .20** | .09 | -.03 | .10 | .16* |
| 25. DIAS Verbal T2 | .18** | .13* | .00 | .10 | .03 | .08 | .16* | .09 | .17** | .10 |
| 26. RA Disruptive T2 | .01 | .06 | .12* | -.02 | .11 [†] | .01 | .04 | -.02 | -.03 | -.01 |
| 27. CBCL Anxious T2 | .12 ⁺ | .04 | .06 | -.04 | .05 | -.03 | .15* | .23** | .20** | -.01 |
| 28. CBCL Withdrawn T2 | .18** | -.05 | -.01 | -.08 | .02 | -.03 | .18** | .18** | .11 [†] | -.02 |
| 29. CBCL Somatic T2 | .09 | .04 | -.08 | -.07 | -.05 | -.04 | .02 | -.01 | .16** | .04 |
| 30. RA Internalizing T2 | -.06 | .03 | -.04 | .02 | .06 | -.06 | .02 | -.01 | -.08 | -.08 |

Table 6. Continued

| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. Care Neglect Index | | | | | | | | | | |
| 2. CEES | | | | | | | | | | |
| 3. RSS (reflected) | | | | | | | | | | |
| 4. APT Escalation | | | | | | | | | | |
| 5. APT Physical | | | | | | | | | | |
| 6. Abusive Discipline | | | | | | | | | | |
| 7. FPP Aversive | | | | | | | | | | |
| 8. FPP Aversive Physicals | | | | | | | | | | |
| 9. MAST | | | | | | | | | | |
| 10. PAE | | | | | | | | | | |
| 11. Care Neglect (child) | | | | | | | | | | |
| 12. Supervisory Neglect (child) | .25** | | | | | | | | | |
| 13. Harsh Discipline (child) | .08 | .09 | | | | | | | | |
| 14. Child Exposure to Alcohol | .15† | .15† | .21** | | | | | | | |
| 15. CBCL Aggressive T1 | .02 | .05 | .00 | .18* | | | | | | |
| 16. DIAS Physical T1 | .12* | -.01 | .10† | .24** | .42** | | | | | |
| 17. DIAS Verbal T1 | .05 | .00 | .09† | .15† | .41** | .58** | | | | |
| 18. RA Disruptive T1 | .23** | .16** | .09 | .20* | .23** | .15** | .15** | | | |
| 19. CBCL Anxious T1 | .00 | .01 | .00 | .08 | .63** | .35** | .37** | .19** | | |
| 20. CBCL Withdrawn T1 | .07 | .07 | .04 | .19* | .50** | .20** | .16** | .15** | .64** | |
| 21. CBCL Somatic T1 | .01 | .05 | -.02 | -.04 | .48** | .21** | .22** | .12* | .53** | .41** |
| 22. RA Internalizing T1 | .10† | .01 | -.01 | .02 | .10† | .09 | .05 | .28** | .15** | .12* |
| 23. CBCL Aggressive T2 | .03 | .12† | -.07 | .09 | .58** | .30** | .33** | .19** | .40** | .25** |
| 24. DIAS Physical T2 | .14* | .00 | .03 | .17† | .29** | .61** | .46** | .13* | .27** | .12 |
| 25. DIAS Verbal T2 | -.01 | -.05 | .05 | .08 | .37** | .50** | .72** | .06 | .35** | .14* |
| 26. RA Disruptive T2 | .08 | .08 | -.02 | .02 | .10 | .09 | .10 | .30** | .07 | .10 |
| 27. CBCL Anxious T2 | .00 | -.02 | -.09 | .07 | .37** | .20** | .25** | .05 | .57** | .38** |
| 28. CBCL Withdrawn T2 | .12† | .05 | -.12† | .09 | .27** | .13* | .10 | .04 | .40** | .56** |
| 29. CBCL Somatic T2 | -.07 | .09 | .00 | .04 | .32** | .18** | .17** | .08 | .33** | .15* |
| 30. RA Internalizing T2 | .07 | .03 | -.01 | .03 | .00 | .09 | .07 | -.06 | .03 | .03 |

Table 6. Continued

| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 1. Care Neglect Index | | | | | | | | | |
| 2. CEES | | | | | | | | | |
| 3. RSS (reflected) | | | | | | | | | |
| 4. APT Escalation | | | | | | | | | |
| 5. APT Physical | | | | | | | | | |
| 6. Abusive Discipline | | | | | | | | | |
| 7. FPP Aversive | | | | | | | | | |
| 8. FPP Aversive Physicals | | | | | | | | | |
| 9. MAST | | | | | | | | | |
| 10. PAE | | | | | | | | | |
| 11. Care Neglect (child) | | | | | | | | | |
| 12. Supervisory Neglect (child) | | | | | | | | | |
| 13. Harsh Discipline (child) | | | | | | | | | |
| 14. Child Exposure to Alcohol | | | | | | | | | |
| 15. CBCL Aggressive T1 | | | | | | | | | |
| 16. DIAS Physical T1 | | | | | | | | | |
| 17. DIAS Verbal T1 | | | | | | | | | |
| 18. RA Disruptive T1 | | | | | | | | | |
| 19. CBCL Anxious T1 | | | | | | | | | |
| 20. CBCL Withdrawn T1 | | | | | | | | | |
| 21. CBCL Somatic T1 | | | | | | | | | |
| 22. RA Internalizing T1 | .03 | | | | | | | | |
| 23. CBCL Aggressive T2 | .28** | .05 | | | | | | | |
| 24. DIAS Physical T2 | .13* | .08 | .39** | | | | | | |
| 25. DIAS Verbal T2 | .20** | .04 | .42** | .64** | | | | | |
| 26. RA Disruptive T2 | -.01 | .17** | .14* | .11† | .04 | | | | |
| 27. CBCL Anxious T2 | .35** | .05 | .59** | .23** | .33** | .11† | | | |
| 28. CBCL Withdrawn T2 | .24** | .07 | .36** | .17** | .18** | .04 | .52** | | |
| 29. CBCL Somatic T2 | .52** | .05 | .34** | .13* | .14* | -.03 | .42** | .19** | |
| 30. RA Internalizing T2 | -.04 | .27** | .06 | .15* | .11† | .17** | .06 | .09 | -.05 |

Note. APT = Analog Parenting Task; CBCL = Child Behavior Checklist; CEES = Children's Experience & Excitement Scale; DIAS = Direct and Indirect Aggression Scale; FPP = Family Peer Process Code; MAST = Michigan Alcohol Screening Test; PAE = Parental Alcohol Experiences Scale; RA = Research Assistant; RSS = Children's Reinforcement Survey Schedule.

† $p < .10$, * $p < .05$, ** $p < .01$

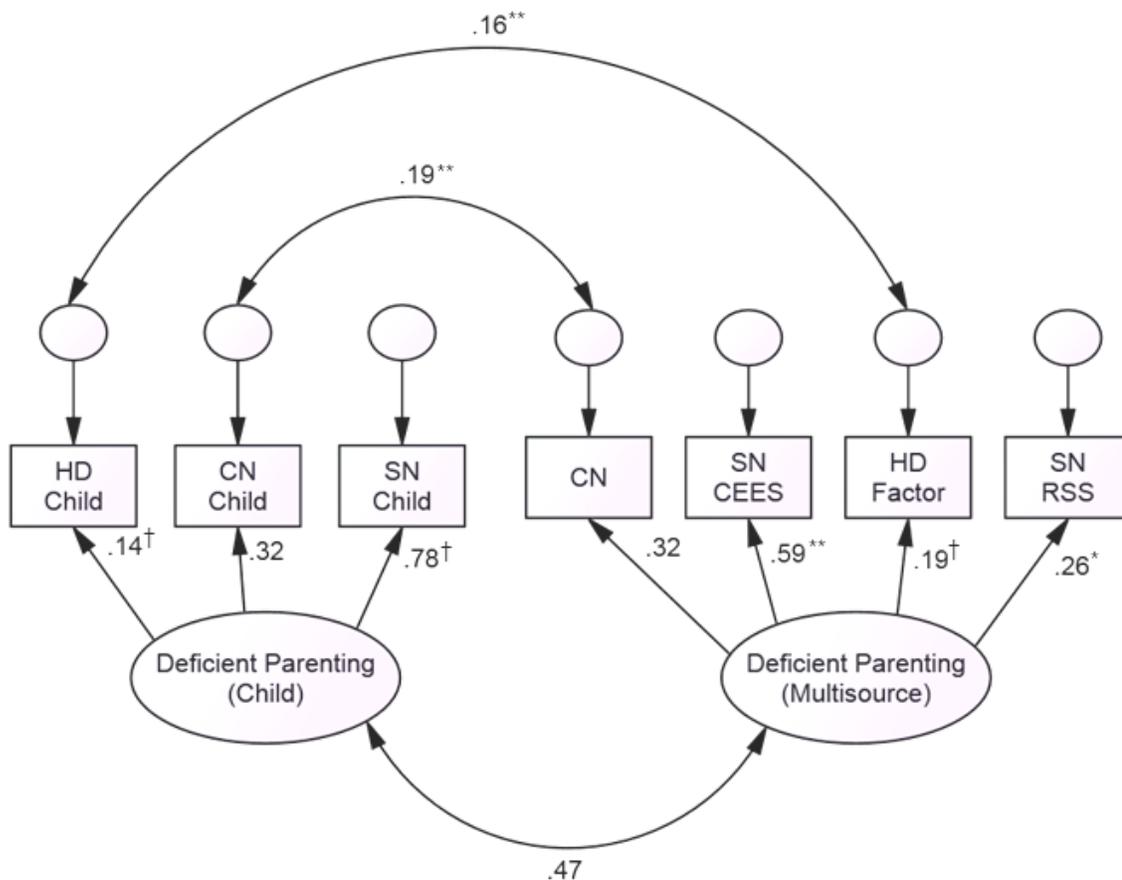


Figure 1. Measurement Model for Deficient Parenting Constructs
(standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. HD = Harsh Discipline; CN = Care Neglect; SN = Supervisory Neglect; CEES = Children's Experiences and Excitement Scale; RSS = Children's Reinforcement Survey Schedule.

$$\chi^2 = 13.53_{(350)}, p = .26; CFI = .964, IFI = .971, \chi^2/df = 1.23, RMSEA = .026$$

† $p < .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

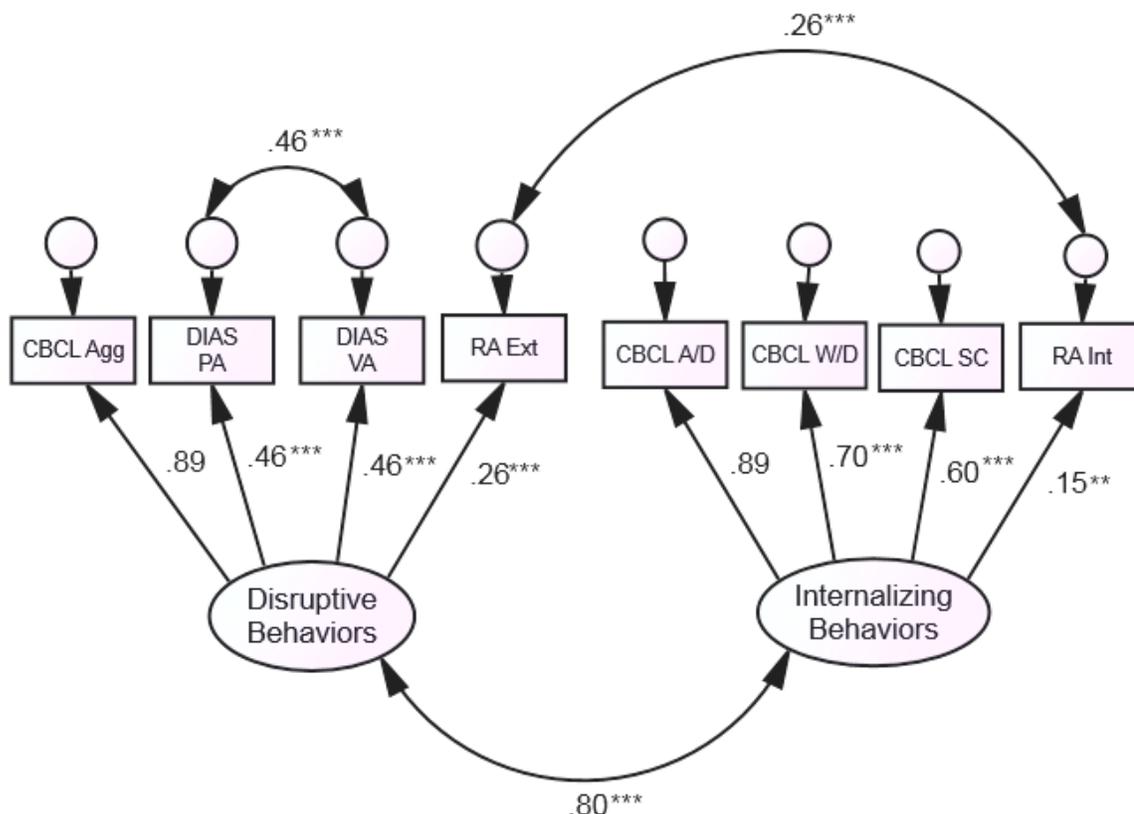


Figure 2. Measurement Model of Behavior in Year 1
(standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. CBCL Agg = Child Behavior Checklist Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RA Ext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; W/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RA Int = Research Assistant Ratings of Internalizing Behavior.

$$\chi^2 = 20.62_{(350)}, p = .24, \chi^2/df = 1.21, CFI = .995, IFI = .995, RMSEA = .025$$

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

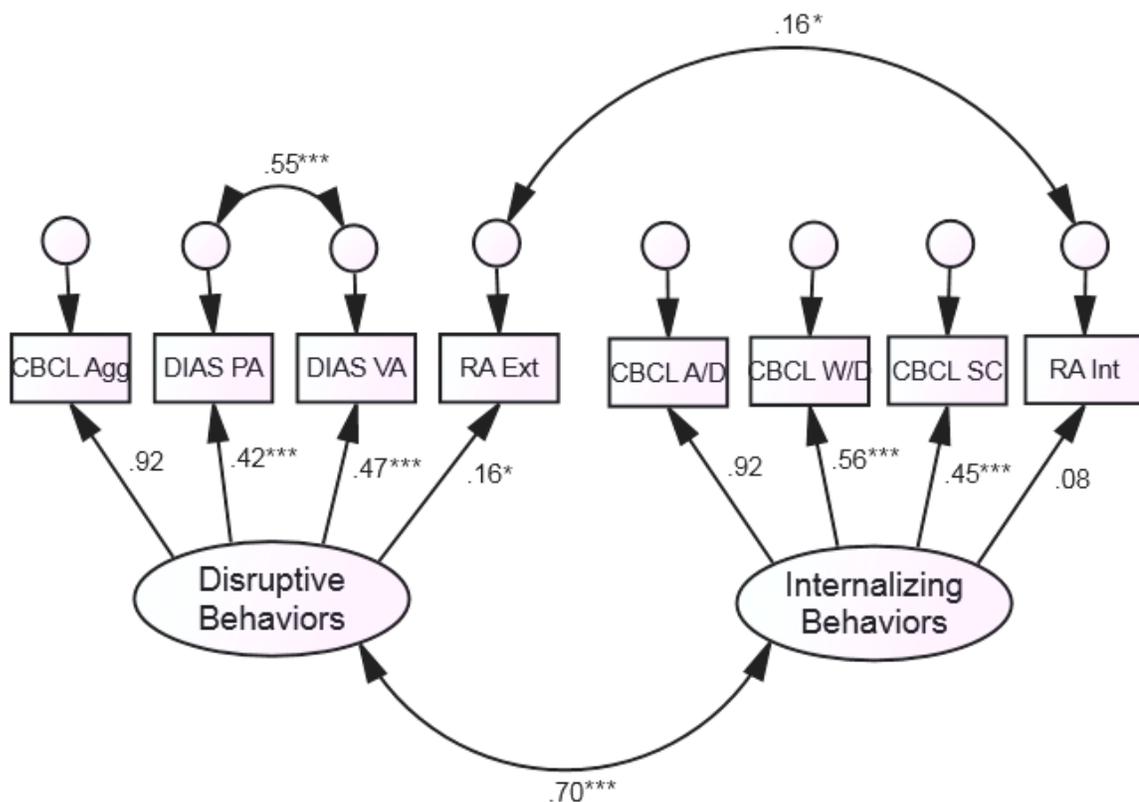


Figure 3. Measurement Model of Behavior in Year 2
(standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. CBCL Agg = Child Behavior Checklist Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RA Ext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; W/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RA Int = Research Assistant Ratings of Internalizing Behavior.

$$\chi^2 = 21.59_{(350)}, p = .20, \chi^2/df = 1.27, CFI = .99, IFI = .99, RMSEA = .028$$

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

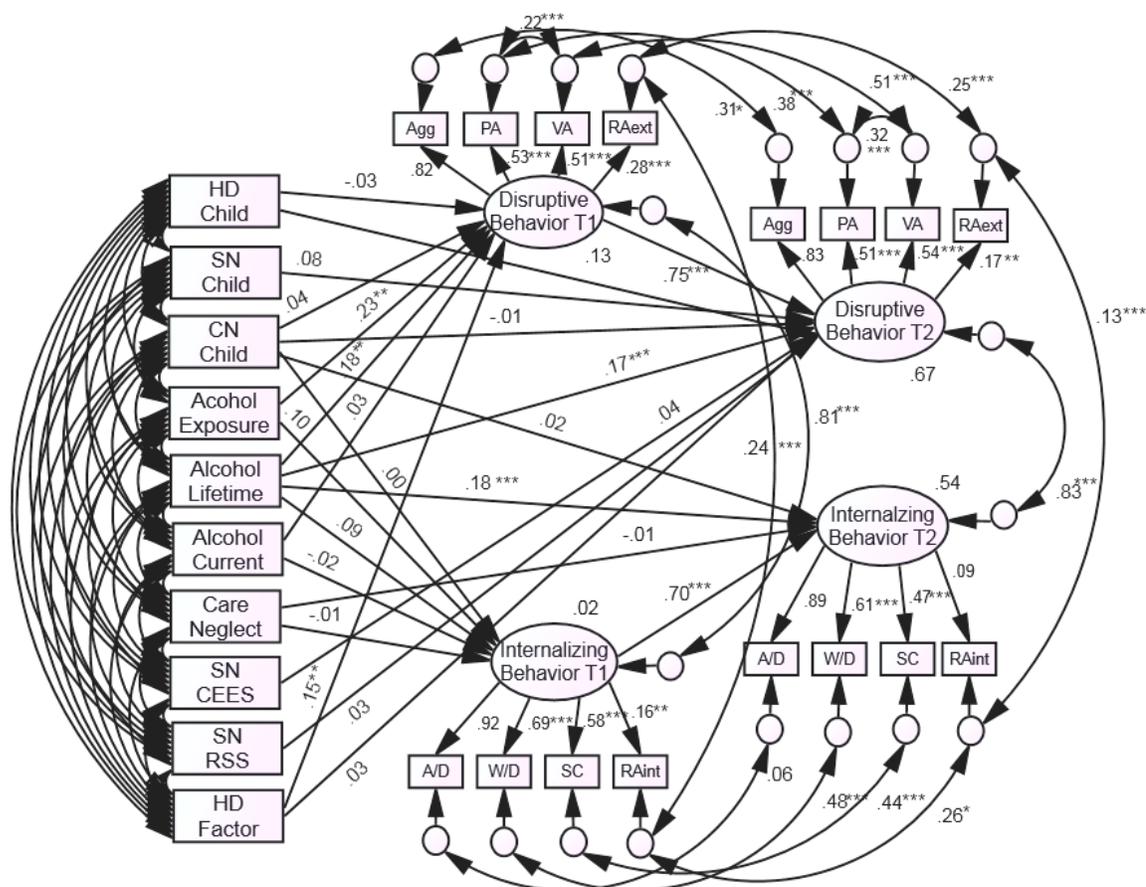


Figure 4. Structural Model Examining Parenting and Alcohol Abuse as Predictors of Disruptive and Internalizing Behaviors (standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. HD = Harsh Discipline; SN = Supervisory Neglect; CN = Care Neglect; CEES = Children's Experiences and Excitement Scale; RSS = Children's Reinforcement Survey Schedule; Agg = CBCL Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RAext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; W/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RAint = Research Assistant Ratings of Internalizing Behavior.

$$\chi^2 = 361.83_{(350)}, p = .00; CFI = .932, IFI = .936, \chi^2/df = 1.59, RMSEA = .04$$

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

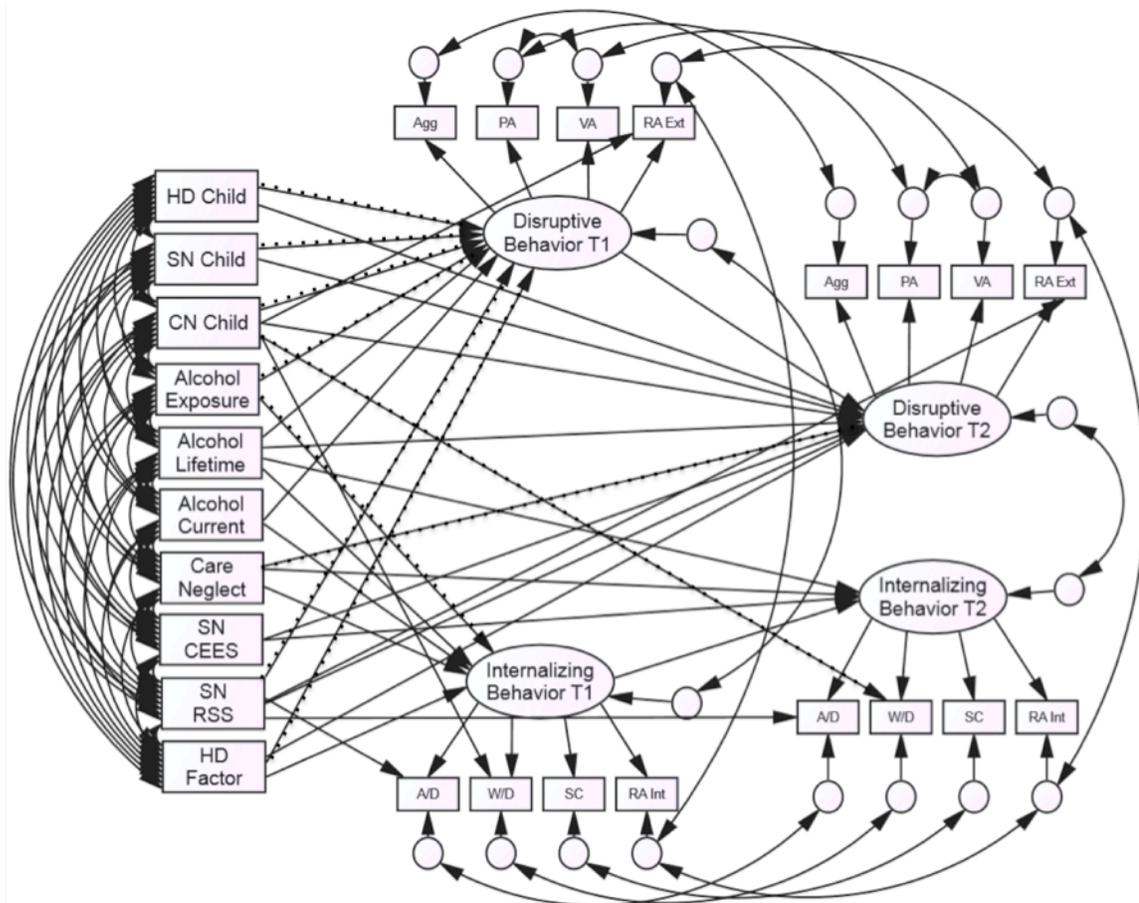


Figure 5. Respecified Structural Model for Multiple Group Analysis

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. Dotted lines indicate additional paths that were freed to vary across age groups. CBCL Agg = Child Behavior Checklist Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RA Ext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; W/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RA Int = Research Assistant Ratings of Internalizing Behavior.

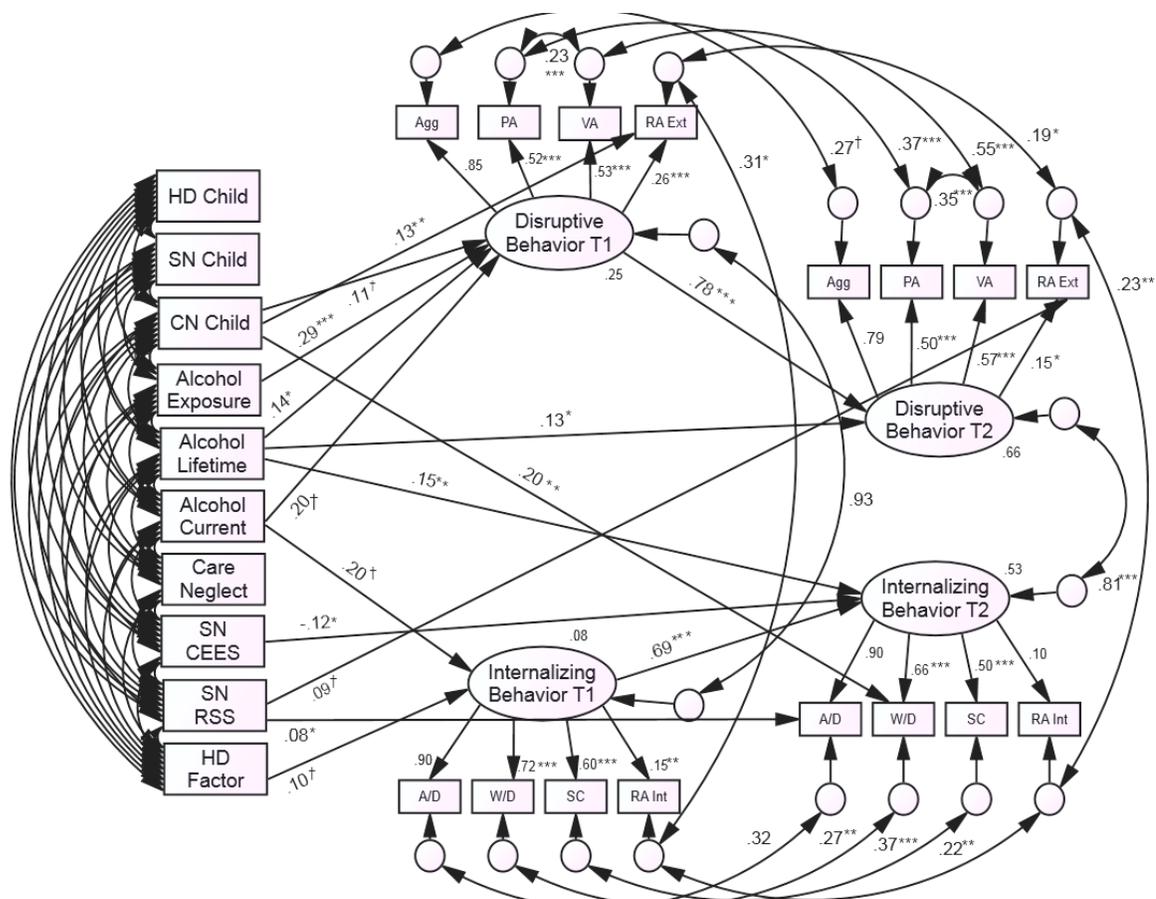


Figure 6. Multiple Group Model with Partial Invariance
(significant paths for younger children shown; standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. CBCL Agg = Child Behavior Checklist Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RA Ext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; A/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RA Int = Research Assistant Ratings of Internalizing Behavior.

$$\chi^2 = 670.79_{(350)}, p = .00; CFI = .904, IFI = .914, \chi^2/df = 1.42, RMSEA = .035$$

$$\dagger p \leq .10 \quad * p \leq .05 \quad ** p \leq .01 \quad *** p \leq .001$$

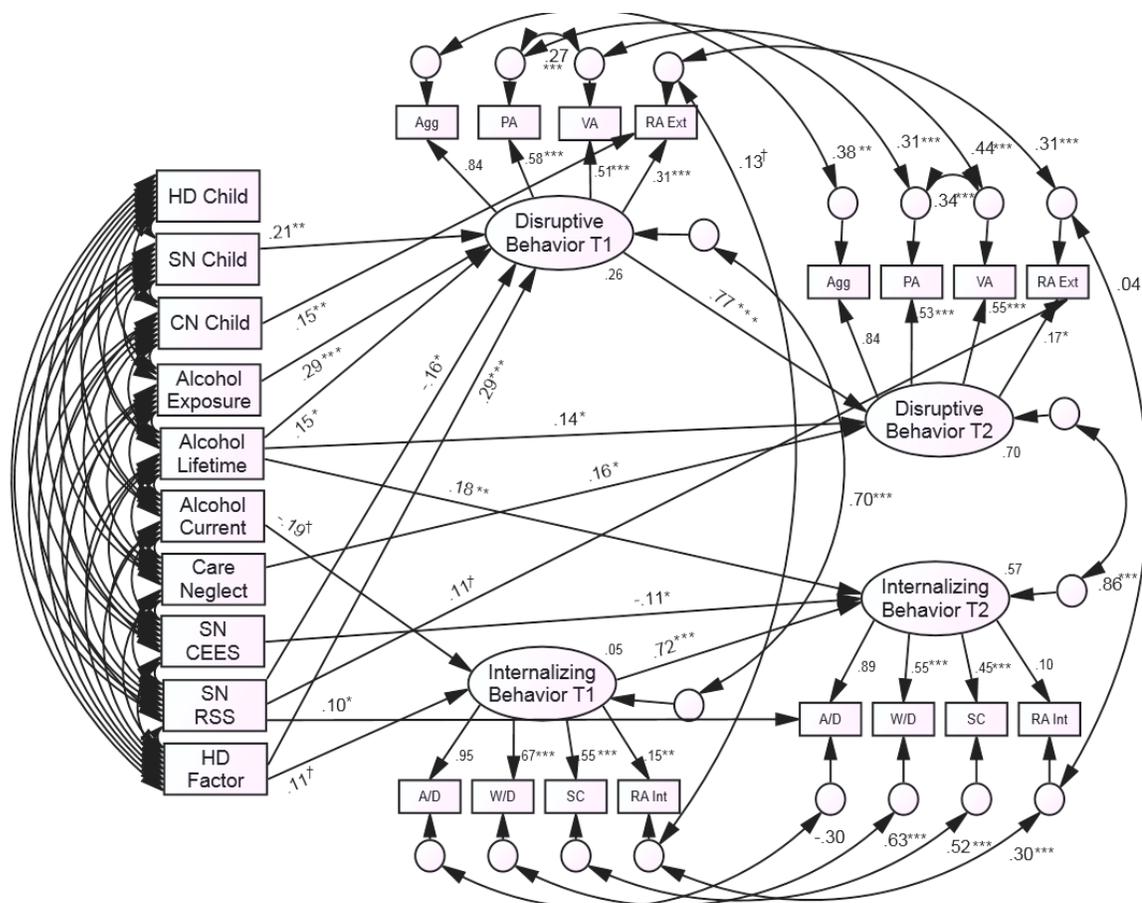


Figure 7. Multiple Group Model with Partial Invariance
(significant paths for older children shown; standardized beta weights)

Note: Ovals indicate latent constructs and circles indicate error terms. Single-headed arrows show paths for hypothesized factor loading. Two-headed arrows indicate covariance terms. CBCL Agg = Child Behavior Checklist Aggressive Behavior; DIAS = Direct and Indirect Aggression Scales; PA = Physical Aggression; VA = Verbal Aggression; RA Ext = Research Assistant Ratings of Disruptive Behavior; A/D = CBCL Anxious/Depressed; A/D = CBCL Withdrawn/Depressed; SC = CBCL Somatic Complaints; RA Int = Research Assistant Ratings of Internalizing Behavior.

$$\chi^2 = 670.79_{(350)}, p = .00; CFI = .904, IFI = .914, \chi^2/df = 1.42, RMSEA = .035$$

$$\dagger p \leq .10 \quad * p \leq .05 \quad ** p \leq .01 \quad *** p \leq .001$$

CHAPTER VIII

DISCUSSION

The primary goal of this study was to evaluate the utility of incorporating children's reported experiences of care neglect, supervision, harsh discipline, and maternal alcohol abuse in an assessment of the impact of deficient parenting and maternal alcohol abuse on internalizing and disruptive behaviors in childhood in an at-risk community sample of young children and their mothers. It was hypothesized that care neglect, supervisory neglect, and harsh discipline would reflect an underlying construct of deficient parenting. This hypothesis was based, in part, on how others have conceptualized child maltreatment (e.g., Herrenkohl & Herrenkohl, 2007), as well as on previous research that has demonstrated a link among these aspects of parenting (Knutson et al., 2005). Within the present sample, this latent variable conceptualization of deficient parenting was not supported, and it was necessary to examine the impact of each aspect of parenting on child outcomes independently. Of note, the present sample was characterized by lower levels of deviant parenting as compared to previous research using similar conceptualizations of parenting. For example, Herrenkohl and Herrenkohl (2007) relied, in part, on administrative data to establish indicators of child maltreatment. Thus, it is possible that there is a stronger association among types of child maltreatment as compared to less severe types of deviant parenting.

Taken together with previous research (Knutson et al., 2004; Knutson et al., 2005), the current finding provides additional support for the utility of distinguishing among different aspects of deficient parenting. Previous research with a sample comparable to the present sample (Knutson et al., 2005) found significant interactions

among care neglect, supervisory neglect and harsh discipline in the prediction of aggressive behavior, as opposed to a latent variable model. While there was not sufficient power to examine interactions among the parenting indicators within the current study, findings suggest that such an approach may prove more fruitful as compared to adopting a latent variable model of deficient parenting. Importantly, within the context of research using administrative data, such a finding highlights the need for researchers to draw distinctions among types of documented maltreatment rather than relying on a single broad classification (e.g., neglect versus care neglect or supervisory neglect). Although the three aspects of deficient parenting are related, the lack of support for the latent variable conceptualization underscores the importance of examining the distinct influences of each aspect of deficient parenting on child outcomes.

To examine the impact of deficient parenting on child outcomes a multiple-group modeling approach was utilized, which allowed for a comparison of regression paths across age groups in the prediction of child behavior problems. Moreover, it was possible to examine the patterns of prediction when using child-reported versus parent/observer-reported measures of deficient parenting. Compared to parent/observer-reported parenting and alcohol abuse, children's reported experiences of parenting and exposure to alcohol abuse were distinctly related to both disruptive and internalizing behavioral outcomes. The hypothesis that children's reports of parenting would be consistent with reports from other sources was not supported, as there was low-to-moderate agreement across informants. While perfect agreement across sources was not expected and would provide little advantage as far as predicting outcomes, marginal agreement reflects the potential for enhanced prediction of childhood outcomes. Thus,

the present findings offer support for the validity of young children's reports of events pertaining to deficient parenting, and suggest that incorporating children's experiences in models of parenting can enhance predictive power, as compared to relying only on parents' reports or observational data.

Overall, results were quite varied depending on the informant and specific aspect of parenting assessed, and current findings highlight the complexity of the relation between parenting and child adjustment. Importantly, age-related differences in children's reports of deficient parenting and maternal alcohol abuse were demonstrated, and findings suggest that certain aspects of parenting may be more relevant at different developmental stages. For example, while younger children's reports of care neglect and maternal alcohol abuse yielded greater predictive power, older children's reports of supervisory neglect proved to be more useful. In contrast, children's reports of harsh discipline were unrelated to outcomes. Thus, not only is it important to assess children's experiences of parenting, age is also an important consideration for understanding how parenting impacts childhood functioning. Consistent with previous studies (e.g., Fite et al., 2005; Frick et al., 1999; Knutson et al., 2010; Stoolmiller, 1994), the present study offers further evidence to suggest that the nature of these relations is fluid across children's development, and emphasizes the importance of using a longitudinal approach to understand how these relations change across different developmental periods. Findings regarding the specific impacts of deficient parenting and maternal alcohol abuse on behavioral outcomes, and differences in the predictive patterns across informants will be reviewed in detail below.

Harsh Discipline

Results of the present study provided partial support for the hypothesized link between harsh discipline and disruptive behavior in children. With regard to concurrent outcomes, harsh discipline based on mothers' reports and observational data was associated with disruptive behavior, consistent with a large body of research (e.g., Bank & Burraston, 2001; Knutson et al., 2005; Miner & Clarke-Stewart, 2008; Stormshak, Bierman, McMahon, & Lengua, 2000). In contrast to previous research that has demonstrated support for this link among younger children, in the present study harsh discipline predicted disruptive behavior only among older children. However, this finding is consistent with a number of studies that have demonstrated that harsh discipline is more strongly associated with negative consequences in school-aged children and adolescents as compared to toddlers and preschoolers, such as aggressive behavior and noncompliance (Gunnoe & Mariner, 1997; Rothbaum & Weisz, 1994).

Additionally, the finding that harsh parenting exerts a stronger influence on disruptive behavior later in children's development may be due to the reciprocal nature of parent-child interactions, whereby harsh parenting influences children's behavior and vice versa (Patterson, 1982; Patterson & Reid, 1984; Rothbaum & Weisz, 1994). Specifically, a number of studies have shown that parent and child variables contribute additively and interactively to an escalation in conduct problems over time (Lansford et al., 2011; Combs-Ronto, Olson, Lunkenheimer, & Sameroff, 2009; Shaw, Bell & Gilliom, 2000). That is, over time, a parent may respond to disruptive behavior with increasing levels of harsh discipline in an attempt to manage the child's behavior, and this in turn increases the likelihood of continued or increasing levels of disruptive

behavior problems. Given the cumulative influences of parenting and child behavior, the link between harsh discipline and disruptive behaviors is likely to be stronger later in the child's development (see Patterson, 1976).

Interestingly, the current study did not provide support for a prospective link between harsh discipline and disruptive behavior in either age group when using mother/observer-based reports. This finding is in contrast to previous research with similarly aged children (e.g., Lansford et al., 2011; Combs-Ronto et al., 2009; Miller et al., 2009). According to Deater-Deckard and Dodge (1997), the relation between harsh parenting and externalizing behaviors includes a nonlinear component. That is, the degree of the association between harsh discipline and externalizing behavior varies depending on the severity or frequency of the harsh discipline. Lansford et al. (2009) identified children whose parents endorsed using either mild physical discipline (e.g., spanking) or harsh physical discipline (e.g., spanking with object), and demonstrated distinct developmental outcomes associated with trajectories of mild versus moderate or high levels of physical discipline. They also found that the stability of discipline was related to differences in adolescent outcomes. Similarly, higher levels of externalizing behavior for children who experienced harsh spanking compared to mild or no spanking have been demonstrated (Lansford, Wager, Bates, Pettit, & Dodge, 2012). Thus, post-hoc analyses were conducted in order to examine whether disruptive behavior was higher among children experiencing more severe harsh discipline within the present sample.

The sample was divided into two groups based on whether the use of spanking aids (e.g., spanking with a belt, hairbrush, or other objects) was endorsed by either the child or mother. Group comparisons revealed no significant differences between groups

on the CBCL Aggressive Behavior subscale or RA ratings of disruptive behavior (see Table 8). However, children in the severe harsh discipline group were significantly more likely to exhibit later verbal aggression in peer interactions and marginally more likely to exhibit direct aggression in peer interactions, as measured by the DIAS (see Table 8). These findings are consistent with previous research (e.g., Lansford et al., 2009; Lansford et al., 2012) and suggest that harsh discipline is likely to have a stronger influence on the development of disruptive behaviors when it is more severe.

The severity of a child's current externalizing behaviors may also influence the extent to which harsh discipline leads to increases in disruptive behavior later. For example, Combs-Ronto et al. (2009) found that the level of externalizing behavior reported in preschool moderated the impact of punitive discipline on future externalizing problems at age 6. Specifically, higher levels of punitive parenting at age 3 predicted higher levels of externalizing behavior at age 6 only among children demonstrating moderate or high levels of externalizing behavior in preschool. In addition, Denham et al. (2000) found that parental anger predicted a continuation of externalizing problems among preschoolers and that this relation was most influential for children with behavior in the clinical range.

Post-hoc analyses were conducted to examine whether harsh discipline moderated the link between disruptive behavior in Year 1 and Year 2 in the present sample. Disruptive behavior measures were first combined using principal components factor analysis in SPSS 19 to generate a single factor score of disruptive behavior for each measurement point. A hierarchical linear regression was then conducted, and results are summarized in Table 7. In contrast to the findings of Combs-Ronto et al. (2009), the

two-way interaction of disruptive behavior in Year 1 and harsh discipline was not significant; that is, the level of disruptive behavior during Year 1 did not moderate the impact of harsh discipline on disruptive behavior one year later. Of note, only 15% of the sample scored in the borderline or clinically significant range on the CBCL Aggressive Behavior subscale, which is lower than what has been reported in other community samples (e.g., Keller et al., 2008). Thus, the low level of disruptive behavior problems in the present sample may have minimized a link between harsh discipline and later disruptive behaviors.

With regard to children's reports of harsh discipline, there was no support for the link between harsh discipline and concurrent or later disruptive behavior in either age group. This finding is consistent with the study by Shelton et al. (1996), in which children diagnosed with a disruptive behavior disorder and children in a control group demonstrated no significant differences in *reports* of deviant parenting. Within studies that have demonstrated support for the link between children's experiences of harsh discipline and externalizing behavior, samples have typically included older children and/or children with substantiated histories of physical abuse (e.g., McGee et al., 1995; Smith et al., 2008). Although the current findings suggest that young children may have difficulty providing useful information about parental discipline, the low base rate of disruptive behaviors within the present sample may have obscured the link between harsh discipline and disruptive behaviors. Moreover, it is possible that children's experiences of harsh discipline have an impact on their behavior only under more severe circumstances of harsh discipline. Additional research examining the link between harsh discipline and disruptive behaviors within clinical samples could clarify this finding.

A path from the multisource index of harsh discipline to concurrent internalizing problems was also included in the final structural model, and this link was found to be marginally significant ($p = .09$) across age groups. The current finding is somewhat consistent with a number of previous studies demonstrating a link between physical abuse and childhood internalizing problems. For example, Finzi et al. (2001) found that physically abused school-aged children reported significantly more symptoms of depression, and in particular suicidal behavior, as compared to neglected and non-abused children. Similarly, Pears et al. (2008) found that pre-school aged children in foster care with histories of physical abuse were at the highest risk for internalizing problems as compared to children whom had not experienced physical abuse. Whereas the current study utilized an at-risk sample, both the Finzi et al. (2001) and Pears et al. (2008) studies utilized samples of children with substantiated histories of physical abuse. Thus, the link between harsh discipline and internalizing behavior may be stronger under circumstances of more severe discipline. Interestingly, Laskey and Cartwright-Hatton (2009) found a significant association between ineffective and harsh discipline and children's internalizing symptoms within a nonclinical sample. Of note, the mean age of children in the present sample ($M = 6.2$) was somewhat lower than children in the Laskey and Cartwright (2009) study ($M = 7.4$) and the Finzi et al. (2001) study ($M = 9.8$). Because internalizing problems are more prevalent among older children (Costello et al., 2005), it is possible that the current finding is a reflection of the low base rate of internalizing problems found within the present sample.

Care Neglect

With regard to care neglect, findings were quite variable across informants and age groups. First, the hypothesis that care neglect based on mother-reports and observational measures would predict internalizing behaviors was not supported for concurrent or later outcomes. This finding is inconsistent with previous research that has found neglected children to be more at risk for internalizing symptoms (e.g., Dubowitz, et al., 2004; Dubowitz et al., 2005; Hildyard & Wolfe, 2002), however, this incongruity may reflect the range of definitions used to characterize neglect. For example, Manly et al. (2001) found an association between physical neglect and internalizing symptomatology, although their measure of physical neglect included failure to provide, lack of supervision, and moral-legal-educational neglect. In contrast, Dubowitz et al. (2004) found the strongest support for the link between internalizing behaviors and environmental neglect, as opposed to psychological or physical neglect. Within the current study, the care neglect index based on maternal-report and in-home observations was comprised of items reflecting both physical and environmental neglect. Thus, post-hoc analyses were conducted to determine whether there was a specific relation between internalizing behaviors and the physical neglect or environmental neglect components within the Care Neglect Index in the current sample.

An environmental neglect score and physical neglect score were derived from the total Care Neglect Index score. Measures of internalizing behavior were combined using principal component analyses in SPSS 19 to generate a single factor score of internalizing behavior for each measurement point. Bivariate correlations revealed that environmental neglect was associated with internalizing behaviors during Year 1 ($r = .11, p < .05$) and

Year 2 ($r = .25, p < .001$) of the study. The physical neglect score was not significantly related to internalizing behaviors in either year of the study. In addition, a hierarchical regression was conducted to examine whether environmental neglect predicted internalizing behaviors in Year 2, after controlling for the level of internalizing behaviors in Year 1. Results revealed that environmental neglect remained significant ($\beta = .15, t = 3.03, p < .01$) after controlling for Year 1 internalizing behaviors. Thus, the post-hoc analyses were consistent with the findings of Dubowitz et al. (2004), and suggest that being reared in an impoverished home environment and neighborhood has a strong and, perhaps, lasting impact on children's adjustment.

In addition, in a recent study by Thompson and Tabone (2010) comparing children with early alleged maltreatment histories (prior to age 4) to children without maltreatment histories, the authors demonstrated no differences in anxiety or depression at age 4. Children were assessed every two years until age 10, and over time, maltreated children showed significantly greater increases in internalizing problems compared to non-maltreated children. Moreover, the difference in internalizing problems between the maltreated and non-maltreated children grew larger over time. Interestingly, 90% of the maltreated children in the Thompson and Tabone sample had experienced neglect only. Taken together with results of the present study, findings suggest that the impact of neglect on children's internalizing symptoms becomes stronger over time, and may emerge later in childhood.

With regard to children's reported experiences of care neglect, there was partial support for the hypothesized link between care neglect and internalizing behavior. Across age groups, there was no association between care neglect and overall levels of

internalizing behavior. However, younger children who reported higher levels of care neglect were significantly more likely to exhibit withdrawal symptoms one year later. This finding is consistent with previous research demonstrating a link between young children's reports of support, such as taking the child places or talking to the child, and later internalizing behaviors (Dubowitz et al., 2005). In addition, Dubowitz et al. (2004) found support for the link between neglect at age 5 and internalizing behaviors at age 6, although their measure of neglect was based on a combination of mothers' reports and observational data. The current finding provides additional support for the notion that the effect of neglect on internalizing symptoms increases over time. Interestingly, items included in the child-report care neglect index primarily reflected physical and emotional neglect, as compared to the multi-source index which primarily reflected physical and environmental neglect. Taken together with the results of the post-hoc analyses reported above, current findings suggest that young children may provide more useful information regarding early neglectful experiences related to their unmet physical or emotional needs, whereas mothers or objective observers may provide more useful information regarding environmental neglect.

There was also support for the link between care neglect and disruptive behavior, although results varied across informants and age groups. The multi-source care neglect index predicted disruptive behavior in Year 2, but only among older children, which is largely consistent with studies demonstrating a link between neglect and later externalizing problems (e.g., Kotch et al., 2008; Manly et al., 2001). However, previous studies have also demonstrated a link between neglect and disruptive behavior among younger children (Dubowitz et al., 2004; Trentacosta et al., 2008). For example,

Dubowitz et al. (2004) found that externalizing behaviors at age 6 were associated with psychological, physical, and environmental neglect at age 5. As the available literature regarding the impact of neglect on children's behavior over time is quite limited, additional longitudinal research is needed to clarify the developmental trajectory of neglect. Furthermore, taken together with previous studies demonstrating that neglectful parenting can impact children differently as a function of age (e.g., Frick et al., 1999; Knutson et al., 2010), the current finding further highlights the need to evaluate potential age-related differences in the link between neglect and childhood outcomes.

In contrast to the multi-source care neglect index, younger children's reported experiences of neglect were related to concurrent, rather than later disruptive behaviors, although this link was marginal ($p = .079$). This finding is somewhat consistent with the available literature, although previous research examining children's experiences of neglect is limited. Dubowitz et al. (2005) demonstrated a prospective link between children's experiences of neglect at age 4 and later externalizing behavior; concurrent behavioral problems were not assessed in that study. Across both age groups in the present sample children's reports of care neglect were associated with disruptive behavior observed during laboratory sessions. A number of studies have shown that teachers rate neglected children as having more externalizing behavior as compared to their peers (Dubowitz et al., 2004; Shaw et al., 2000). Thus, it is possible that neglected children demonstrate greater difficulty regulating their behavior within structured environments, such as a laboratory setting as compared to a less structured home environment.

In sum, younger children's reports of care neglect yielded greater predictive power with regard to both internalizing and disruptive behaviors than did older children's

reports of neglect. Moreover, the multisource Care Neglect Index yielded greater predictive power with regard to outcomes among older children. Trentacosta et al. (2008) noted that younger children are often more dependent on the caregiver relationship with regard to their social development, whereas older children begin to spend increasing time in extra-familial contexts. Thus, younger children may be more likely to be immediately impacted by neglectful parenting, particularly with regard to the neglect of their physical and psychological needs. In contrast, older children may be more sensitive to neglectful conditions in their home and neighborhood environments. Overall, the current findings highlight the importance of obtaining information from multiple sources in both clinical and research contexts. For example, depending on the age of the child, it may be more beneficial for clinicians to target the parent-child relationship versus addressing issues regarding safety in the home and neighborhood.

Supervisory Neglect

In the present study, it was hypothesized that supervisory neglect would predict higher levels of disruptive behavior over time (i.e., one year later), but not concurrently. In addition, it was expected that supervision would have a stronger impact on disruptive behavior among older children. Results provided only limited support for these hypotheses. Two measures of supervision were used in order to assess distinct aspects of supervision that might be important for young children. First, mother-child discordance on the CEES, was used to assess mothers' awareness of children engaging in potentially deviant acts (e.g., smoking a cigarette, lighting matches, drinking beer, etc.). There was no support for the hypothesized link between the CEES measure of supervision and disruptive behaviors. Second, mother-child discordance on the RSS provided a measure

of supervision of routine aspects of a child's day-to-day activities. In the present study, poor day-to-day supervision did not predict overall levels of later disruptive behavior, but rather poor supervision was associated specifically with higher levels of disruptive behavior observed during laboratory sessions in Year 2 ($p = .07$). Contrary to the hypothesized relation between supervision and disruptive behavior, poor day-to-day supervision was also significantly related to lower levels of concurrent disruptive behavior among older children ($p < .05$). This finding is in contrast to other studies that have demonstrated a positive link between poor supervision and disruptive behavior, (e.g., Cohen et al., 2001; Dick et al., 2009; Dishion & McMahon, 1998; Stoolmiller, 1994), and thus it is possible that this finding was a Type 1 error.

While the link between RSS congruence scores and later disruptive behaviors was marginal, this finding is consistent with research demonstrating that the impact of supervision on conduct problems becomes stronger over time (e.g., Loeber & Stouthamer-Loeber, 1986). Given the age of the current sample, it is possible that the impact of supervision on disruptive behaviors has not yet fully emerged, and may become stronger as children mature into preadolescence and adolescence. This interpretation is consistent with a study by Frick et al. (1999), in which they found that parental supervision was only weakly related to conduct problems among younger school-aged children. Moreover, it is worth noting that within the present sample the nature of the relation between supervision and disruptive behaviors changed dramatically over the course of one year. At the time of the first assessment poor day-to-day supervision was significantly related to lower levels of disruptive behavior among older children, and was unrelated to disruptive behavior among younger children. Thus, the significant albeit

marginal prospective link between poor day-to-day supervision and disruptive behavior observed during laboratory sessions reflects a notable change in the relation between supervision and child behavior.

It was also hypothesized that children reporting higher levels of supervisory neglect would demonstrate significantly more disruptive behaviors during the second year of the study. In contrast, children's reports of supervisory neglect demonstrated predictive power with respect to concurrent, rather than subsequent outcomes, although this association varied across age groups. Among older children poor supervision was associated with higher levels of concurrent disruptive behavior, providing additional support for the notion that supervision may become more influential as children grow older. This link was not significant among younger children. Although it was hypothesized that children's reports of supervision would predict disruptive behaviors in Year 2, the hypothesis was largely based on previous work with adolescent populations (e.g., Dishion & McMahon, 1998; Stoolmiller, 1994). Thus, compared to adolescents, school-aged children's reported experiences of poor supervision may have a more immediate impact on behavior. Taken together, the current findings based on mothers' reports and children's reports of supervision suggest that inadequate parental supervision impacts children differently across development. Importantly, the present study demonstrated that it is possible to detect the impact of poor supervision on disruptive behavior among school-aged children when utilizing children's reports of parenting.

A number of additional paths between poor supervision and internalizing behaviors were also estimated in the final model. While the link between poor supervision and later internalizing behaviors was consistent across age groups, findings

were inconsistent across measures of supervision. First, inadequate supervision as measured by the CEES predicted *lower* levels of later internalizing behavior in both age groups. This is consistent with the Pears et al. (2008) study in which children experiencing primarily supervisory neglect, but not other types of maltreatment, were at the least risk for internalizing symptoms as compared to other groups of children. In addition, although the CEES was used as a measure of supervision in the current study, it was originally developed as a measure of sensation seeking in children (Selner, 1992; Selner & Knutson, 1990). It is possible that discordance scores on the CEES actually reflect the child's tendency to engage in risky or deviant acts, albeit without their parent's knowledge. Thus, these children may demonstrate higher levels of sensation seeking, which has been associated with lower levels of anxiety (Roberti, 2004).

In contrast, children with less adequate supervision of their day-to-day activities, as measured on the RSS, demonstrated *higher* levels of anxiety symptoms one year later. This finding suggests that preschool-aged and school-aged children may have difficulty developing appropriate strategies to deal with stressful situations when their mothers are unaware of or uninvolved in their day-to-day activities. While much of the previous research regarding childhood anxiety and supervision (e.g., Chorpita & Barlow, 1998) has focused on the role of parental overprotection, the current findings suggest that inadequate supervision may also play an important role in childhood anxiety. Moreover, with regard to clinical implications, it may be beneficial for clinicians to help families develop strategies to enhance parental involvement and awareness of the child's daily activities.

Maternal Alcohol Abuse

The hypothesis that maternal alcohol abuse would predict concurrent internalizing and disruptive behaviors was partially supported. Lifetime history of maternal alcohol abuse significantly predicted disruptive behaviors, but not internalizing behaviors during the first year of the study. This is consistent with studies demonstrating a stronger link between parental alcoholism and externalizing behavior as compared to internalizing behavior (e.g., Malone, McGue, & Iacono, 2010; Puttler, Zucker, Fitzgerald, & Bingham, 1998). With regard to prospective outcomes, lifetime history of maternal alcohol abuse predicted *both* internalizing and disruptive behavior. This finding is consistent with a number of longitudinal studies examining the impact of parental alcohol problems on children ranging from toddlerhood to adolescence (e.g., Christensen & Bilenberg, 2000; Edwards, Leonard, & Eiden, 2001; Edwards, Eiden, Colder, & Leonard, 2006; Eiden, Edwards, & Leonard, 2007; Eiden, Molnar, Colder, Edwards, & Leonard, 2009; Hussong et al., 2008). Of note, most studies to date have relied on comparisons between alcoholic and non-alcoholic families. In contrast, the current study utilized a continuous rather than dichotomous approach, and examined maternal alcohol abuse within a community sample. Thus, the present findings suggest that maternal history of alcohol abuse significantly influences children's behavior even within a non-clinical, but at-risk, sample.

It was also hypothesized that mothers' reports of current alcohol abuse would predict higher levels of concurrent internalizing and disruptive behavior, and this too was only partially supported. Among older children, current maternal alcohol abuse was marginally associated with *lower* levels of concurrent internalizing behavior. Although

this finding is counter-intuitive, perhaps alcohol abuse interferes with a mother's ability to recognize internalizing behavior problems in her child, whether due to spending less time with the child or due to the effects of intoxication and related consequences (e.g., recovering from alcohol abuse). There is some evidence that parents demonstrate difficulty identifying internalizing behavior in young children (Mesman & Koot, 2000), and is possible that this is exacerbated by alcohol use. In addition, a number of studies have found better agreement regarding ratings of childhood externalizing versus internalizing behaviors (Achenbach et al., 1987; Grills & Ollendick, 2002; Thurber & Snow, 1990), suggesting that it is more difficult to identify internalizing behavior in young children as compared to externalizing behavior. However, given that the link between maternal alcohol abuse and children's internalizing behavior was marginal and current support for such an interpretation is lacking, additional research regarding the extent to which alcohol interferes with a parent's ability to identify child behavior problems is needed.

Among younger children, current maternal alcohol abuse was marginally associated with higher levels of both internalizing ($p = .054$) and disruptive behavior ($p = .051$). It is somewhat difficult to interpret these findings in the context of previous research because available evidence regarding the proximal impact of parental alcohol use on children's behavior is somewhat inconsistent and findings vary across informants. For example, while Hussong et al. (2008) failed to demonstrate a link between parent-reported problem-drinking and mother-reported internalizing symptoms, proximal effects of parental problem-drinking were significant for child-reported symptoms. Similarly, Shell et al. (1992) found an association between parental problem-drinking and child-

reported symptoms of depression. With regard to disruptive behaviors, Shell et al. (1992) failed to find support for the link between parental problem-drinking and conduct problems, although the measure of conduct problems was based on children's reports. Consistent with the current study, others have demonstrated significant proximal effects of parents' alcohol-related problems and child externalizing behavior as rated by parents (e.g., Hussong, Huang, Curran, Chassin, & Zucker, 2010). Of note, while previous studies have focused on older school-aged children and adolescents, the current findings suggest that mothers' recent alcohol-related problems are likely to have a negative impact on preschool-aged children's behavior. However, additional research regarding age-related differences in the impact of parental alcohol abuse on child behavior is needed. Importantly, future research should include multiple informants of both alcohol abuse and child behavior.

With regard to children's reported exposure to maternal alcohol abuse, higher levels of exposure were significantly related to concurrent disruptive behavior for both older and younger children. Within the current literature, attempts to link parental alcohol abuse to childhood outcomes have typically relied on indirect measures of exposure. Thus, the current study offers unique data to support the link between children's exposure to maternal alcohol abuse and disruptive behavior. In contrast, within the present sample children's reported exposure to alcohol abuse was not related to internalizing behaviors in either age group. Previous research has demonstrated that children expressing concern about their parent's alcohol use exhibit significantly more behavior problems, including more depressive symptoms, and that expressed concern may be a stronger predictor of symptomatology than parental reports of drinking (Shell et

al., 1992). Thus, it is possible that children's interpretations of alcohol-related behaviors, rather than maternal behaviors per se, impact the development of internalizing behavioral problems. This interpretation is also consistent with studies demonstrating a link between adolescents' perceptions of the parent-child relationship and psychological adjustment (e.g., Reitz et al. 2006; Tritt & Pryor, 2005). Of note, such studies have relied on adolescents' reports of both parenting and psychological adjustment, whereas the current study utilized mothers' reports and research assistant ratings to assess children's behavior. Additional research examining both children's reports of maternal alcohol abuse and concerns or perceptions of maternal alcohol abuse in the prediction of child behavior could clarify this finding.

Cross-Informant Agreement

It was hypothesized that cross-informant agreement on the parenting and alcohol use measures within the current sample would be higher than what has been previously reported, due to adopting child instrument items that avoided subjective impressions and referenced discrete incidents in the child's experience. However, the approach of utilizing objective items did not appear to enhance cross-informant agreement on measures of parenting. Consistent with previous research (e.g., Gaylord et al., 2003; Sessa et al., 2001; Renk & Phares, 2004; Tein et al., 1994), cross-informant correlations among parenting variables were low, albeit statistically significant, ranging from .16 to .23. It is possible that lower than expected agreement was found on measures of care neglect and harsh discipline because those constructs were based on a combination of mothers' reports and observational data. In addition, one might expect better parent-child agreement with regard to discrete acts, such as being spanked, as opposed to overall

levels of harsh discipline, neglect, or supervision. A post-hoc examination of item-level agreement for two items from the harsh discipline index supports this notion.

Specifically, rates of mother-child agreement were substantially higher with regard to whether the child had ever been spanked (63% agreement) and whether the child had been hit or spanked with an object (72% agreement).

Interestingly, in contrast to previous research, moderate agreement was demonstrated with regard to maternal alcohol abuse ($r = .34, p < .001$). For example, Smith et al. (1999) found poor agreement regarding maternal alcohol use ($r = .19$) among parents and younger school-aged children (1st and 2nd graders). Moreover, there was no association between children's perceptions and parents' perceptions of alcohol-related consequences in that study. Importantly, Smith et al. used a lifetime measure of alcohol use, the MAST, to assess parents' self-reported alcohol-related problems. In contrast, within the current study, children's reports of maternal alcohol abuse were compared to mothers' self-reported *current* alcohol abuse. Thus, findings suggest that parent-child agreement is likely sensitive to the time frame of behaviors assessed.

Limitations

The present research is limited by a reliance on mothers' reports of child outcomes. Although RA ratings of child behavior were obtained, mothers' reports accounted for a substantial portion of the variance of the child behavior latent variables. Moreover, compared to others involved in the child's life, research assistants have fairly limited contact, and thus fewer opportunities to observe the child's behavior. Evidence suggests that children's behavior can be quite variable across settings (De Los Reyes & Kazdin, 2005). For this reason, an attempt was made to gather teacher-report data, in

order to include a measure of child behavior that is independent of the parent-child context. However, teacher participation in the study was rather low, precluding the inclusion of teachers' ratings of child behavior. A number of studies have demonstrated important differences in the prediction of parent-reported versus teacher-reported child outcomes. For example, Gaylord et al. (2003) found that children's reports of parenting were more predictive of peer acceptance as rated by teachers, than were mother's self-reports of parenting. Given the variability of children's behavior across settings, the inclusion of teacher-report data could enhance our understanding of how parenting impacts children's psychological adjustment in other domains aside from the home environment or context of the parent-child relationship.

Future Directions

The present study points to a number of important areas for consideration in future research. First, based on the current findings, future research on parenting and child maltreatment would benefit from utilizing child informants. Research to date regarding child maltreatment rarely incorporates young children's reports of their experiences, despite the fact that young children are at highest risk for abuse and neglect (USDHHS, 2009). As demonstrated in the present study, children are an important source of information during the preschool and school-aged years, and are able to provide valuable information regarding parenting that has predictive utility. Importantly, the predictive utility of children's reports varied across age groups depending on the specific aspect of parenting assessed, and thus, future research should account for such age-related differences. Within the present sample, families were considered to be at risk for maltreatment, and the parenting experienced by children reflected a range from normative

to deviant behavior. In order to develop a better understanding of the consequences associated with more abusive parenting, it would be useful to evaluate children's experiences in more severe circumstances of abuse or neglect.

Previous research has demonstrated that the co-occurrence of multiple types of maltreatment confers increased and longer lasting risks across the lifespan (Felitti et al., 1998; Lau et al., 2005). In addition, different combinations of overlapping maltreatment experiences can lead to distinct outcomes (e.g., Herrenkohl & Herrenkohl, 2007; Pears et al., 2008). However, within the current study the proposed model of deficient parenting was not supported. While previous research has demonstrated links among harsh discipline, supervision, and care neglect (Knutson et al., 2005), it is likely that the relations among these aspects of parenting and maternal alcohol abuse are more complex than simply reflecting components of deficient parenting. For example, Knutson et al. (2005) found that increased supervision predicted lower levels of punitive discipline, which in turn was related to aggressive behavior in children. Similarly, it is often assumed that parental alcohol abuse confers risk for childhood outcomes, in part, through its influence on parenting behavior (e.g., parental conflict, communication, disciplinary strategies), although empirical support for this notion is lacking. Current findings highlight the importance of distinguishing between aspects of deficient parenting in the prediction of child outcomes, although future research is needed to develop a better understanding of how these aspects of parenting and alcohol abuse combine to influence children's psychological adjustment.

While significant relations were demonstrated over the one-year time interval, this is a limited segment of time in which to examine the trajectory of parenting and the

development of childhood behavior problems. A number of studies have emphasized the importance of developmental timing with regard to abuse, neglect, and parental alcohol abuse (e.g., Kotch et al., 2008; Manly et al., 2001), and there is evidence that the impact on children changes over time (e.g., Fite et al., 2005). For example, with regard to the impact of poor supervision on child outcomes, a large body of research has demonstrated that supervision becomes a more powerful predictor of conduct problems during preadolescence and adolescence (e.g., Dishion & McMahon, 1998; Frick et al., 1999; Loeber & Stouthamer-Loeber, 1986; Stoolmiller, 1994). Similarly, current findings suggest that the impact of harsh discipline on disruptive behavior changes over time. Adding additional time points would strengthen future research and allow for further exploration of changes in developmental trajectories as well as changes in children's reports of their experiences.

Finally, the outcomes of interest in the present study were disruptive behavior and internalizing behavior. A number of studies have also demonstrated that physical abuse and neglect are associated with range of other deleterious outcomes for children, including problematic peer relations (e.g., Bank & Burraston, 2001; Dubowitz et al., 2004; Gaylord et al., 2003), lower academic performance (Bank & Burraston, 2001; Egeland, 1991, Erickson, Egeland & Pianta, 1989; Wodarski et al., 1990), and attention problems (Erickson & Egeland, 1996). Because most studies have not included children's reported experiences of parenting, it may be worthwhile to explore whether children's reports of parenting are related to such outcomes. In addition, the inclusion of teacher-report data would allow for a measure of child behavior that is independent of the parent-child context. There is some evidence to suggest that children's perceptions of

parenting are associated with measures of peer acceptance (Gaylord et al., 2003), although the measure of parenting used focused on relatively normative aspects of parenting (e.g., nurturance, rejection). Thus, whether young children's reports of abusive or neglectful parenting are related to other aspects of functioning remains unknown.

Conclusion

The present study represents a first step in assessing the predictive validity of children's reported experiences of deficient parenting and maternal alcohol abuse. Results were quite varied across informants, underscoring the importance of obtaining information from multiple sources with regard to the link between parenting and child outcomes. Children and mothers provided distinct information regarding specific aspects of parenting and maternal alcohol abuse, and obtaining information from both sources enhances our understanding of the link between parenting and child behavior. Overall, current findings offer support for the utility of measuring children's reports of parenting and maternal alcohol abuse, and provide a foundation for future studies to begin examining the more complex relations among parenting and childhood behavior.

Table 7. Summary of Hierarchical Regression Analysis for Harsh Discipline Predicting Child Disruptive Behavior During Year 2 of the Study

| Variables | β | R^2 | ΔR^2 | t |
|----------------------------------------------------------|---------|-------|--------------|----------|
| 1. Child Disruptive Behavior (year 1) | .74 | .567 | .567 | 16.18*** |
| 2. Harsh Discipline | .06 | .570 | .003 | 1.26 |
| 3. Child Disruptive Behavior (year 1) x Harsh Discipline | .05 | .572 | .002 | 1.04 |

Note. Child disruptive behavior and harsh discipline variables are factor scores. Betas are standardized betas from the final step.

*** $p < .001$

Table 8. Comparison of Children With and Without Severe Harsh Discipline Experiences on Year 2 Disruptive Behavior Using *t*-tests

| | Severe Harsh Discipline (n = 206) | No Severe Harsh Discipline (n = 144) | <i>t</i> | <i>p</i> |
|---------------------------|-----------------------------------------|-----------------------------------------------|----------|----------|
| Index | Mean (SD) | Mean (SD) | | |
| CBCL Aggressive Behavior | 56.4 (6.8) | 56.3 (7.5) | -0.12 | NS |
| DIAS Physical Aggression | 4.5 (3.4) | 3.8 (3.2) | -1.67 | .10 |
| DIAS Verbal Aggression | 6.0 (4.1) | 4.8 (3.4) | -2.25 | .03 |
| RA Externalizing Behavior | 0.65 (1.1) | 0.70 (1.2) | 0.33 | NS |

Note. CBCL = Child Behavior Checklist; DIAS = Direct and Indirect Aggression Scales; RA = Research Assistant. Levene's test indicated unequal variances on the DIAS Verbal Aggression scale, so degrees of freedom were adjusted.

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