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Relationship between Self- Report and Observed Parenting among Parents in Coerced and Non Coerced Populations

By

Rabab Zahidi

January 5, 2018

Background: Most common forms of child maltreatment are neglect and physical abuse. In coerced populations, children are at risk of child maltreatment leading to a variety of negative outcomes including social, emotional and behavioral problems. Interventions for coerced populations are provided and focused on parenting programs. Ultimately, these interventions can help improve parenting behaviors and benefit children. Interventions for parents must be evaluated using standardized assessment tools, and thus one important question that arises is how best to assess parenting. Observational methods (observing a parent and child interact) are often regarded as the gold standard in the assessment of parental behaviors, but are cumbersome to administer. Self-reports of parenting behaviors are the most commonly used measure due to ease of administration, but their validity may be questioned, especially among populations such as parents with substance use disorder who may be coerced into treatment by the child welfare or criminal justice system. The goal of this study is to examine the relationship between two observational measures of parenting and several self-report measures.

Methods: Participants (n=133) were either parents who were receiving treatment at metro-Atlanta drug courts or other caregivers. All completed self-report measures of parenting, completed a videotaped interaction task with a child. Self-report measures collected include the Parent-Child Communication Scales and the Alabama Parenting Scale. The observational task included a play activity, structured discussions, or both, depending on the age of the child. Videos were coded for a variety of behaviors, and two of those behaviors (affection/warmth and involvement) matched constructs that parents reported on in a self-report battery.

Results: Correlations between self- report and observational measures for the constructs affection and involvement for the whole sample ranged from $r = -.03$ to $.06$ for affection, and $r = -.05$ to $.08$ for involvement, but none were statistically significant. Relationship between self-report and observed parenting by adult type and child age were also examined, however none of the correlations were statistically significant.

Conclusion: Although there were no significant correlations found between self-report and observational measures, it does not undermine the importance of the study question, as current research suggests that self-reports are not interchangeable with observational methods. Future directions of the research would be to examine CAIC (observational tool) in more detail. Also when comparing constructs in self-reports and observational methods, items should be associated according to concept targeted rather than using the generalized subscales.

Relationship between Self- Report and Observed Parenting among Parents in Coerced and Non Coerced Populations

By

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BDS., Baqai Medical University

A Thesis Submitted to the Graduate Faculty
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APPROVAL PAGE

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Author's Statement Page

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Rabab Zahidi
Signature of Author (electronically signed)

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Introduction

Parenting as a Public Health Issue

The Centers for Disease Control and Prevention (CDC), defines child maltreatment (CM) as physical, emotional and sexual abuse, neglect and mistreatment of a child under 18 (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). CM can be caused by a parent, caregiver or a person in a supervisory role such as a teacher or a coach. Behaviors considered maltreatment lead to harm or have the potential or threat of harm in four common ways: physical, emotional, sexual, and neglect (Leeb et al., 2008). Physical abuse includes kicking, hitting, shaking and/or using other forms of physical force on the child. Emotional abuse involves name calling, shaming, threatening and suppression of love towards the child. Sexual abuse is engaging a child in sexual acts. Neglect is the failure to provide the basic emotional and physical needs such as food, clothing, shelter, education, and medical care to the child (Fortson, Klevens, Merrick, Gilbert, & Alexander, 2016; Leeb et al., 2008).

In 2015, state child protective service systems (CPS) reported 683,000 victims of child abuse and neglect in the United States, yielding a victimization rate of 9.2 victims per 1,000 children. CPS also reported that the most common forms of CM were neglect (75.3%) and physical abuse (17.2%). Children aged 1, had the highest rate of reports (24.4 per 1000 children in the national population) of CM. Child mortalities caused by maltreatment and neglect accounted for 1,670 deaths in FFY 2015 (U.S. Department of Health & Human Services, 2016). Despite the statistics, neglect has received less compared to other causes of CM (National Research Council; Division of Behavioral and Social Sciences

and Education; Commission on Behavioral and Social Sciences and Education; Panel on Research on Child Abuse and Neglect., 1993). According to the Department of Health and Human services, the cases of CM based on official reports have decreased since the 1990's (Finkelhor, Jones, & Shattuck, 2013), and though official CPS reports underestimate the true prevalence of CM (Fang, Brown, Florence, & Mercy, 2012; Swahn, Whitaker, Phippen, Leeb, Teplin, Abram, & McClelland 2006), estimates based on non-official reports have shown a similar decline (Sedlak, Mettenburg, Basena, Peta, McPherson, & Greene, 2010).

CM in the form of neglect has also been associated with increased risk of running away from home in adolescent children (Kaufman & Widom, 1999). Adults with a history of child neglect have higher association with delinquency, adult criminal behavior, adulthood dysthymia, antisocial personality disorder, and alcohol problems (Maxfield & Widom, 1996; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997; Rivera & Widom, 1990; Widom, 2001).

CM has also has negative long term effects on physical health outcomes. Findings in the adverse childhood experiences (ACEs) study (Felitti, Anda, , Nordenberg, Williamson, Spitz , Edwards, ... & Marks, 1998) indicated that CM is associated with health problems such as lung cancer (Brown, Anda, Felitti, Edwards, Malarcher, Croft, & Giles, 2010) and liver disease (Dong, Dube, Felitti, Giles, & Anda, 2003). From an economic stand point, Fang and colleagues (2012) found that the total life time burden of one year of cases of child maltreatment cost \$124 billion. Fang and colleagues (2012), along with many others (CDC, Harvard Center of Developing Child), suggest that public health approaches that include early intervention to improve parenting will yield benefits that exceed the cost of those interventions, and ultimately, impact the long term negative consequences of CM (Fang et al., 2012).

Importance of Parenting & Parenting Constructs

U.S Department of Health and Human Services (2015) reported about 92% of child abuse was caused by parents aged 18 to 44 years. At its core, most maltreatment (neglect and physical abuse) is, by definition, a failure of parenting. Even without maltreatment, poor parenting practices can contribute to a range of social, behavioral and emotional problems in adolescents (Chu, Farruggia, Sanders, & Ralph, 2012) that may continue into adulthood. The most common and costly problems in adolescents were risky behaviors such as the use of alcohol, tobacco, and drugs, suicide and unintended pregnancy (Bennett, Kang, Alperstein, & Kakakios, 2004).

A lack of parenting skills can also affect the parent as poor skills leader to greater stress. Adjusting to becoming a new parent is associated with increased stress levels, which has caused increase in depression and anxiety in parents (Lipman & Boyle, 2008). These negative consequences have been associated with poor parenting skills and child maltreatment (Karreman, Tuijl, Van, & Deković, 2008). Research have shown participation in parenting programs have led to parent's reduction in depression and stress. Results from the Triple P- positive parenting program have showed reduction in parent depression, stress and anger (Sanders & McFarland, 2000; Sanders, Pidgeon, Gravestock, Connors, Brown, & Young, 2004). Chaffin and colleagues (2012) found that implementing SafeCare model among American Indian parents resulted not only improvement in child maltreatment but also reduction in depression.

To change parenting practices, a framework is needed to understand parenting behaviors in the context of child development. Healthy child development is the “regulation of behavior, facilitation of psychological autonomy, and connection with significant others” (Barber, 1997, p.7). Connection with significant others is characterized by loving, caring, and supportive relationship between parent and child. Parents regulate a child's behavior through rule setting, monitoring and supervision of the child or

adolescent. A great deal of research has shown that parenting styles can influence child behavior and affect child development (Aunola & Nurmi, 2005)

In assessing parenting styles, research has shown three sets of core dimensions (Skinner, Johnson, & Snyder, 2005), which include warmth versus rejection, structure versus chaos, and autonomy versus coercion (Skinner et al., 2005). Warmth is considered the most important and pervasive dimension. It signifies “expression of affection, love, appreciation, kindness, and regard”. Warmth also known as acceptance includes support, care and emotional availability (Skinner et al., 2005). Conversely, rejection is the expression of dislike of a child by their parents. The behavior involves harshness, hostility, irritability, and volatility (Skinner et al., 2005). The second dimension structure, is the degree to which parents provide an environment that is organized, predictable, and consistent (Power, 2013). An environment that is disorganized, unpredictable, and inconsistent leads to chaos (Skinner et al., 2005). The third dimension, autonomy support, is the extent to which parents behave in a way that allows the child to interact to behave independently and/or express his/her views. The child’s opinions are taken into consideration when planning or solving a problem (Skinner et al., 2005). In contrast, coercion (also known as psychological control) is strict obedience demanded from the parent, and coercive parents are overly controlling and dictatorial. Though each of these dimensions has utility in predicting later child outcomes, this research focuses on the constructs affection, and encouragement. Parental nurturance refers to parents providing a positive atmosphere for the emotional development of the child and child-parent relationship, including constructs acceptance, warmth, physical affection, support, encouragement and involvement (Lockz & Prinz, 2002).

Assessing Parenting

Given that parenting plays a key role in child outcomes and maltreatment, valid methods are required to assess parenting behaviors for both etiologic and intervention studies. Two primary sources

for assessment of parenting have been utilized: self-reports and observational methods. Self-reports are by far the most common method used. In self-report methods, parents complete validated scales (questionnaires) by indicating levels of parenting knowledge, attitudes, or practices. Self-report assessments have the advantage of ease of administration, flexibility, and efficiency in that data on many different concepts can be collected in a single setting.

Self-report methods have the potential for distortion that is caused by various sources of bias. Parents are often asked to estimate frequency of behaviors (yelling and talking) over extended periods of time (days to months). Recall of behaviors over an extended period of time is cognitively difficult, and reports may not be accurate, an example of a memory recall bias. Another type of bias, perceptual bias occurs when behaviors described on a survey may have different meanings for different parents. For example, two parents may consider the same objective behavior (raising one's voice) differently (one considers it yelling, the other does not) and report differently. A second example is how parents may respond to the question, "I play with my child frequently"; the response depends on the parent's conception of 'frequently'. Responses to behaviors that are clearly socially undesirable or sensitive in nature can be influenced by a parent's need for social approval (i.e., to look good), or by their desire to avoid disclosure of risky behaviors, are both examples of social desirability bias. Lastly, the method may consist of fixed choices, common in most surveys, resulting in inflexibility and decline in validity (Paulhus & Vazire, 2007; Althubaiti, 2016).

Observational methods are often considered the "gold standard" of parenting assessment, as they are considered more objective compared to self-reports (Fassnacht, 1982) in evaluating parenting techniques (Hawes & Dadds, 2006). Observation methods can be carried out in natural settings in which respondents are relaxed and natural behaviors are more likely to be observed. This method helps in capturing real behaviors of interest such as criticism, expressions of affection, or simply engagement with a child. Data are collected during the occurrence of the activity and, thus, are a function of the parent's

actual behavior, not a verbal retelling of that behavior (Gardner, 2000). These factors allow observation methods to have greater validity and have advantage of capturing behaviors more accurately compared to self-report (Bennett, Sullivan & Lewis, 2006).

Observational methods, like all methods, have limitations, some of which are practical and some of which can affect validity. First, and perhaps foremost, observations methods are time consuming and expensive to utilize. Data collectors must be present in the setting and must either collect the data in real time (during the interaction) or video record the interaction. Observational methods can have observers bias in which the observers ratings are influenced by their own perceptual biases, but well-established coding and training procedures can protect against this bias. Still, given specific coding procedures, an observer may be limited to looking for certain kinds of behaviors and ignoring others. Lastly, when people are observed, they may behave differently than under non-observed conditions, and bias their behaviors toward socially desirable behaviors (or fake good) resulting in a social desirability bias. Social desirability biases can affect both self-report and observational methods, but they have a greater impact on self-report methods (Bennett, et al., 2006). Given the relative advantages of self-report (ease of administration) along with its disadvantages (more easily biased), and the greater perceived objectivity of observational methods, it is important to understand the relationship between the two type of measures.

Association between observation and self-report methods

There has been significant amount of research on parenting skills, but a lack of agreement on the best method to assess parenting. One important question is to what extent do self-report and observational methods of the same parenting construct correlate? Research examining the association between self-report and observation indices of parenting behavior has yielded mixed findings with variation in the correlation being related to the age of the child age involved in the interaction. The association between observed and self-report methods have been moderate to high in the limited studies conducted on

preschool age (1 to 4 years) child and parent interactions; however, the studies examining this relationship have limitations. In a study by Arnold and colleagues (1993) discipline (including laxness, over-activity, verbosity and general dysfunctional discipline) was measured using self-report (30 items Parenting Scales, (Arnold et al., 1993) and observational methods (30 minutes structured videotaped single observation visit to home). Though the results showed a high rate of agreement of $\rho = 0.7$ (for general dysfunctional discipline) between self-report and observational methods, the sample was very small ($n=15$), increasing the likelihood that the high correlation was a chance occurrence. In the study by Dowdney and colleagues (1984), general parenting quality was measured by summary ratings from the observation interviews. The self-report and observational measures were both rated on a three-point scale which assessed parenting quality as 'poor', 'intermediate', or 'good' using the unstructured 2 hours observational interviews (which were not videotaped). There was a 73% agreement between the two methods. Although, the sample size ($n=44$) was somewhat larger than the sample size of Arnold et al. (1993) study, only one three-point scale was used to compare parent report and observation method, which increased the chances of agreement between the two methods. In order to achieve reasonable reliability, the authors condensed responses into 3 categories, and also used a global rating to assess the quality of parenting. Most importantly, they did not control for chance of agreement, which, given three categories, is considerable (33%).

Studies with larger sample size have shown more modest levels of agreement between reported and observed parenting. In the study by Strayhorn & Weidman (1988), the self-report of parenting behavior was measured by global domain using the 34 items Parent Practice Scale (Strayhorn & Weidman, 1988) with items rated on variable point Likert scale, and observations of parenting were rated on two parent-child interactions consisting of 25 minutes of free play between parent and child. The videos were assessed using global rating of parenting behaviors (number of points on scale were not stated). The agreement between the self-report and observation methods was $r=0.33$, significant but lower than in the aforementioned studies.

Studies using larger sized samples and older aged children (7-18 years) have shown weaker levels of associations between self-report and observed parenting. In a study by Feinberg and colleagues (2001), national sample of 720 families with children aged from 9 to 18 years were assessed for parental behaviors; warmth/support and conflict/negativity. The parenting constructs measured via self-report were; parental warmth by Parent- Child Relationship survey (Hetherington & Clingempeel, 1992), parent and child rated 36 and 31 items, on 5 point Likert scale, affection by the Expression of Affection Inventory, parent and child response to 22 items on 7 point Likert scale (Hetherington & Clingempeel, 1992) negativity by the Parent Discipline Behavior Inventory (Hetherington & Clingempeel, 1992), Parent-Child Disagreement, Punitiveness and Yielding to Coercion subscales and conflict by Conflict Tactics Scale (Straus, 1979). The observational methods included 20 minutes of videotaped interactions of both mother-child and father- child that were taken separately. The videos were coded on a 5 point scale using a global coding system adopted from Hetherington & Clingempeel (1992); Feinberg and et al., (2001). The results showed a correlation between self-report and observation methods for warmth and negativity, the highest correlation being 0.39 was for mother's negativity and 0.38 for father's warmth. As seen, the association between the two methods was modest, and the authors suggested that this could have resulted from methodological processes applied that caused variance from the manifested variables (Feinberg, et al., 2001). As mentioned previously self-report were measured by various scales which were combined together later, which can limit reliability and reduce the correlation (Bannister, Burman, Parker, Taylor, & Tindall, 1994).

It is unclear as to why a child's age seems to affect the relationship between reported and observed parenting, but one explanation is that older children are more conscious about their surroundings and behave differently during the observational method compared to younger children who may act more naturally. This may affect parent behavior and thus a "typical" interaction may be harder to capture for parents with older versus younger children (Dowdney et al., 1984; House, Umberson, & Landis, 1988;

Mrazek, Dowdney, Rutter, & Quinton, 1982). Thus, any work examining the relationship between self-report and observed parenting should consider the child's age.

Assessing parenting with resistant or coerced populations

There are many challenges in measuring parenting in highly risk and coerced populations. In addition to the aforementioned challenges for both self-report and observational measures, working with a population coerced into treatment can add further obstacles. Parents from vulnerable populations who are coerced into treatment by child welfare or justice systems may have inaccurate responses on self-report measures. There are many reasons for this. Parents coerced into treatments are usually among the most vulnerable populations, and may have relatively lower cognitive capacity for responding to surveys, and this can affect accuracy of reporting (Morsbach & Prinz, 2006). Coerced parents also have stronger motivational biases to 'fake good' especially if they might experience consequences as a function of their reports (e.g., parents involved in child protective systems). One of these biases could include "Pollyanna Effect" in which a person is overly optimistic and focus on the positive rather than the negative outcomes in stressful episodes (Goodhart, 1985). In a study by Dawes and colleagues (2017), one fifth of the 171 mothers enrolled in the opioid substitution therapy were likely to 'fake good' on the Brief Child Abuse Potential Scale (BCAP), a self-report measure of child abuse risk. A study by Costello & McNeil (2014), compared observed parenting behaviors of parents who 'faked good' on the CAP to those who had not at pretreatment and found a no differences between to the two groups. At pre-treatment, parents in the faking good group had high scores on the CAP and presented to be more optimistic; however they did not have lower scores on criticism or negative physical touch or higher scores on praise and positive physical touch compared to the non-faking group (Costello & McNeil, 2014). This indicates that parents who "fake good" on self-report surveys do not necessarily show behavioral differences on observational measures compare to those who don't fake good. That is, a motivation to bias self-report data does not necessarily affect behavioral data.

This thesis used data from a study of drug court clients and their families, in which the client, a co-parent, and a child completed a series of self-reported scales, included parenting measures, and participated in a video-recorded interaction task between the parent and child. As mentioned previously, self-reports have many limitations and in order to counter these limitations, a number of strategies were incorporated into the drug court study. One approach was to increase the number of methods used to measure the same concepts. This approach helped increase validity of self-report (Morsbach & Prinz., 2006). The study not only used multiple self-reporting measures but also used three different types of observational methods. Another strategy applied was selecting measures from the eight self-report measures of parenting practices that took in account the internal consistency of the measures and the similarity of the measure with other sources of data (Morsbach & Prinz., 2006). The eight self-reports were selected by two comprehensive reviews (Holden, 2001; Locke & Prinz 2002). The study used two measures from the list; Alabama Parenting Questionnaire (Essau, Sasagawa, & Frick, 2006) and Brief Child Abuse Potential Inventory (Short version of Child Abuse Potential Inventory) (Ondersma, Chaffin, Mullins, & LeBreton, 2005).

Another strategy applied in reference to the research paper by Morsbach & Prinz (2006) was using the audio computer-assisted interviewing (ACASI). In this technique, the participant used a computer to answer questions read by a recorded voice. Research has shown that electronic devices such as computers have decreased the rate of missing data (Aquilino, 1994; Tourangeau & Smith, 1996; Turner, Lessler, & Devore, 1992) because computers make it more difficult for participants to skip questions (Morsbach & Prinz., 2006). Also, respondents have been shown to answer more socially undesirable items when questionnaires are self-administrated (Tourangeau, Rasinski, Jobe., Smith, & Pratt, 1997).

The aim of this thesis paper was to examine the relationship between reported and observed measures of parenting behaviors, and compare the relationship for a coerced and non-coerced population.

Specifically, the study compared reported and observed parenting for parents in drug court, with other caregivers. Based on the literature reviewed above, I will also examine differences in the relationship between self-reported and observed parenting based on the age of the child.

The hypothesis of the paper was that the relationship between self-report and observed parenting would be stronger among the non-drug court clients compared to drug court clients. I also hypothesized that the correlation would be stronger among parents of younger children compared to parents of older children.

Methods

Description of Data and Data Source

Data from this project came from a quasi-experimental study involving two adult treatment courts and two family treatment courts in Metro Atlanta. The goal of the larger study was to introduce evidence-based interventions for parents and children at drug courts. Two courts received the intervention and two served as control. At all four courts, drug court clients and their families (one other caregiver and one child) were invited to participate in a research evaluation by completing an annual assessment. The annual assessment included computerized surveys for adults and children who were 8 years or older and a parent-child interaction that was video recorded and coded. All data for the current research came from the baseline assessment.

Recruitment

Clients enrolled in one of four Metro-Atlanta drug courts and their families were eligible to participate in the study. Clients were recruited only after completing the first phase of drug court, typically a residential detoxification and stabilization phase. The inclusion criteria were: being a client of

one of the four drug courts and being a parent or primary caregiver of a child under the age of 18, and completion of the initial treatment phase. Recruitment took place either at the drug court or the treatment center. The research team conducted short presentations describing the goals and participation requirement for the study. Interested participants were provided with forms to complete to determine eligibility. All participants who were interested and eligible were contacted via phone calls. Once a client was recruited, the research team would recruit other caregivers and children to participate in the study. Other caregivers were broadly defined and could include spouses, boyfriends/girlfriends, participant's relatives or anyone who played a regular parenting role to the child.

From June 2013 to April 2017, 466 drug court participants attended the short presentations for recruitment at the different drug courts. 207 participants were eligible and 133 (64%) participants enrolled into the project. Most of those enrolled also invited other caregivers (48/36 %) and child (90/68 %) to participate.

Sample

For the current study, the sample consisted of a total of 128 participants (5 participants declined to participate in the video portion of the study) which was comprised of 74 drug court participants and 54 non-drug court caregivers. The sample had 80 female and 48 male participants, and 76 of the participants were married. The sample consisted of 58.6% white, 37.5% Africa-American, 3.9% other races. Of the total sample, 33.8% of the drug court participants and 42.6% of the other caregivers had partial, shared or full custody of their children (see Table 1 for descriptive).

Assessments

Participants agreed to complete an assessment that included a self-report survey and a video-recorded interaction with the child. Assessments were conducted by two members of the research team,

and most took place in the participant's home. The consent forms were read and signed by the both adults, and children aged six or older gave verbal assent.

The self-report surveys were conducted on a laptop or tablet with headphones via an audio assisted computer self-interview to ensure privacy. To promote honest responding, participants were reassured that the answers provided for the surveys would not be shared with the drug court program. For completing the assessment, each adult received a \$75 gift card and the child received a \$20 gift cards (only children 8 and older completed the survey).

The parent-child interaction task was completed after the survey. The nature of the task differed according to the age of the child. Parents of children under 5 years old were asked to engage in a 10-15 minutes play activity to capture free play behaviors. The parent and child could either play with a toy of their choice or the toy provided by the members of the project. If the child was less than one year old, the parent had a choice of either reading a book or talking and interacting with the child.

For dyads where children were between 6 years to 9 years, the interaction task consisted of three parts: two discussion questions (Daily Debrief Activity and Planning a Positive Activity) and one play activity. The Daily Debrief Activity was a 4-minute task in which the adult and child were instructed to talk about the most recent period of time they were apart from each other. The adult was directed to try to understand how the child spent their time when they were most recently apart. The Planning a Positive Activity task was a 5-minute task in which the parent and child were asked to plan activities that they would do together if they were off from school and work for a whole week, and could plan the time together.

For dyads where the child was between 10 years to 17 years, three discussion based tasks were assigned: Daily Debrief, Planning a Positive Activity, and Problem Solving. The Daily Debriefing and

Planning a Positive Activity are as described above. The Problem Solving Activity was a 7-minute task in which the parent and child were provided with a list of common issues about which parents and children disagree, and asked to choose an issue that had been problematic and discuss it in detail and try to form solutions together. If they had finished discussing the issue before time was up they were instructed to move on to another issue.

Children younger than 8 years were provided with toys to incentivize participation, and children aged 8 and older were provided with \$5 gift card per video (i.e., \$10 for making a video with each adult).

Self-Report Surveys

The self-report surveys consisted of several standardized scales plus a demographics survey. Because the current study focuses on parenting practices, only the relevant parenting scales will be discussed.

The Alabama Parenting Questionnaire (APQ; Essau, Sasagawa, & Frick, 2006) is a 42-item self-report measure that assesses five key parenting constructs; involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment. For this study, I focus primarily on the constructs of *involvement* (10 items; e.g. you have friendly talk with your child) and *positive parenting* (6 items; e.g. you let you child know when he/she is doing a good job with something) as they mapped on to specific constructs being assessed via observational methods. Each item is rated on a 5 point scale and items within a subscale were summed. The Parent Child Communication Scale (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998) is a 20-item scale used in the FastTrack project (n.d., 2011) and was adapted from the Pittsburgh Youth Study (Loeber, et al., 1998). The parent report version consisted of 20 items that assessed the constructs discipline, punishment, communication, rewards, positive parenting, empathy, and parent child relationship (n.d., 2011). For this study, we used

the 6-item parent communication subscale ($\alpha = 0.76$), which assessed the positivity of parent-child communication. Sample item from the subscale included “Do you and your child come to a solution when you talk about a problem?”. Each item is rated on a 5 point scale and items within a subscale were averaged.

Observational Measures and Coding of Parent-Child Interactions

Three different coding schemes were used to code the parent-child videos to suit the different video recorded tasks. To code parent-child discussions, two observational scales were used (Fast Track’s Observer Impressions scale and a scale developed for this study, the Caregiver Adolescent Interaction Coding or CAIC), and to code play activities, the PICCOLO scale was used (Roggman, Cook, Innocenti, Jump Norman, & Christiansen, 2009). Two coding schemes were used for the discussion activities because one captured micro-level behaviors, and the other captured more macro-level observer impressions.

Fast Tracks’ Observer Impression is a 58-item scale used to code the three discussion-based tasks. Each item is rated on a 3-point scale (0, 1, and 2) and items within a subscale are averaged. The observer rates both the child and parent; however, since the focus of this study was on parenting practice only the parent scale was examined. The parent scale includes several constructs: positive communication/involvement (12 items, e.g. Paraphrasing what the child was saying) negative behavior (6 items, e.g. Engage in inappropriate behavior), staying on task/not interrupting (6 items, e.g. interrupting the child when he/she is speaking), affection (3 items, e.g. Display positive physical contact) and negative physical contact (3 items, e.g. Display negative physical contact). The constructs of interest for this paper were affection/warmth (positive physical contact) and involvement because they mapped to constructs assessed via self-report.

CAIC is a 9-item measure developed for use in this study. Constructs were taken from Eyberg's Dyadic Parent-Child Interaction Coding System (Robinson & Eyberg., 1981) and adapted for older children and the specific observation task used for this study. The nine items on CAIC assess both the parent and child characteristics including: affection/warmth, knowledge/awareness of child's life, engagement/involvement, reasonable expectation, and presence of role reversal. Each item is rated on a 5-point scale and considered individually. For this study, I focused on the ratings of the parent behaviors of affection/warmth (one item) and involvement (one item) because they matched constructs assessed via self-report.

PICCOLO is a 29-item observation tool used to assess parenting behaviors of parents and young children (10-47 months). It is a strength-based measure of parenting interaction that predicts children's early social, cognitive, and language development (Roggman et al., 2009). The measure assesses four constructs: affection/warmth (7 items, e.g. Parent speaks in a warm tone of voice), responsiveness (7 items, e.g. Parent pays attention to what child is doing, looks at child when child talks or makes sound) encouragement (7 items, e.g. Parents shows enthusiasm about what child is doing), and teaching (8 items, e.g. Parent suggests activities to extend what child is doing). For this study, I focused on the construct affection (7 items) only. Each item is rated on a 3-point scale and items within a subscale were averaged.

Training of coders

Three research assistants were trained to code the videos using the three scales described above. Training occurred over a period of several weeks, and began with coders watching and coding each section together, comparing results, and discussing. Discussions were facilitated by faculty with expertise in the tools, who had already achieved reliability as coders. For the PICCOLO scale, training included materials provided by the scale developers, including interactions that were coded by the developers. Once apparent reliability was achieved among the three research assistants in group coding, they began to

code videos separately to formally compare reliability. All of the videos for this study were coded by two raters to ensure reliability (intraclass correlations are presented below).

Coding of Interactions

In total, 128 videos were coded, 74 including a drug court client and the child, and 54 including the other caregivers and child. As mentioned above, videos with children under 5 ($n = 43$) included only play tasks and were coded using only the PICCOLO. Videos with children aged 6 to 9 ($n = 49$) included both play tasks and discussion-based tasks, and thus were coded using all three tools. Videos with children ages 10 to 17 ($n = 38$) included only discussion based tasks and were coded with the CAIC and Fast Track tools. In total, there were 92 video coding using PICCOLO (51 drug court clients and 41 other caregivers), and 87 using Fast Track and CAIC (49 drug court clients and 38 other caregivers).

All videos were coded by two coders. The reliability was measured by the intra-class correlation (ICC). ICC is defined “as the correlation between one measurement (either a single rating or a mean of several ratings) on a target and another measurement obtained on that target” (Shrout & Fleiss, 1979, p. 422) and guidelines for acceptable ICC rates indicate that ICCs above .60 are considered good, and ICC above .75 are considered excellent (Cicchetti, 1994).

For CAIC and Fast Track, we treated the judges as fixed effects because multiple judges were used to rate the same n (targets). In this case each judge’s rating was examined individually and the individual results were pulled (Shrout & Fleiss, 1979). Interrater reliability (measured using Shrout and Fleiss fixed set) were very good; the ICC for Fast Track was .74, and CAIC was .75.

For PICCOLO, we were interested in the developer’s pre-identified subscale of affection. To examine the reliability affection subscale, we first took the means of the individual items based on the

developer’s recommendations per judge. We then examined the ICC of the mean subscale score. As we were using mean subscale scores, the appropriate measure was the Shrout and Fleiss reliability mean of K scores (Shrout & Fleiss, 1979). The ICC for PICCOLO was .85, which fell within the excellent range (Cicchetti, 1994). Since two coders coded the videos, we averaged coders’ ratings on each scale to create the rating used in the analysis.

Summary of observational and self-report measures for affection and involvement by child age

	Affection	Involvement
<i>Observational Tools</i>		
CAIC	1 item for children 6-17 (n = 87)	1 item for children 6-17 (n = 87)
Fast Track	3 items for children 6-17 (n=87)	12 items for children 6-17 (n=87)
PICCOLO	7 items for children 0-5 (n=43)	-
<i>Self-Reported Measures</i>		
APQ	6 items for children 2-17 (n=108)	14 items for children 2-17 (n=108)
PCC	-	6 items for children 6-17 (n=108)

Statistical Analysis

Statistical analysis was performed using SAS 9.3. The focus of the analyses was to determine whether there was a relationship between observational and self-report measures and to examine if adult type or child age moderated this relationship. First, the frequency distribution along with means and standard deviations of the variables was examined to summarize the data. Then Pearson’s correlations were calculated to examine the relationship between the constructs (affection and involvement) by

assessment methods (self-report and observational). Correlations were computed for the entire sample, and then separately by adult type (drug court client and other caregivers) and by age of child (0-5 years, 6-9 years, and 10-17 years.).

Results

Descriptive statistics for the constructs affection and involvement by participant type (clients and other caregiver) are presented in Tables 2 and 3. The mean scores for clients and other caregivers were similar for affection. Clients and other caregivers rated themselves high on self-reports scores; APQ-affection was 27.13 (on a 5-30 point scale) ($sd = 2.81$) for clients and 27.32 ($sd = 2.99$) for other caregivers; PCC was 4.06 (on a 1-5 point scale) ($sd = 0.70$) for clients and 4.00 ($sd = 0.76$) for other caregivers.

The observational average scores were on the upper end of the scale for both CAIC and PICCOLO; CAIC (affection): 4.24 (on a 1-5 point scale), ($sd = 0.66$) and PICCOLO: 1.46 (on a 0-2 point scale) ($sd = 0.032$) for clients; and CAIC (affection): 4.14 (on a 1-5 point scale), ($sd = 0.70$), ($sd = 0.65$) and PICCOLO: 1.46 (on a 0-2 point scale), ($sd = 0.29$) for other caregivers but relatively low for Fast Track; 0.40 (on a 0-2 point scale), ($sd = 0.60$) for clients and 0.40 ($sd = 0.62$) for other caregivers.

For the involvement domain, the self-report scores were also at the upper end of the scale range for both APQ-involvement and PCC. Clients reported high levels of involvement with means at the upper end of the rating scale. The APQ-involvement mean was 39.22 ($sd = 6.49$) on a 5-50 point scale, and the PCC mean was 4.06 ($sd=.70$) on a 1-5 scale. Other caregivers similarly reported high levels of involvement, APQ-involvement = 40.52 ($sd = 5.53$) on a 5-50 point scale, and PCC=4.00 ($sd = .76$) on a 1-5 point scale.

The observational scores for involvement (assessed via the CAIC) were high for both clients and other caregivers; for clients, CAIC mean was 4.40 ($sd = 0.59$) on a 1-5 point scale, and for other caregivers, mean CAIC involvement ratings were 4.26 ($sd = .79$) on a 1-5 point scale. However, the Fast Track average scores were on the lower end of the scale for both types of participants; 0.96, ($sd = 0.30$) for clients and 0.97 ($sd = 0.29$) for other caregivers on a 0-2 point scale.

Correlations between Self- Report and Observational Measures

The correlations between self-reported and observational measures for constructs affection and involvement were computed (Table 4). The first column shows the relationship between the observational measure and the self-report measure for affection and involvement for the whole sample. None of the correlations were statistically significant, ranging from $r = -.03$ to $.06$ for affection, and $r = -.05$ to $.08$ for involvement.

Self-Report and Observational Measures Correlation According to Adult Type

Next, I examined the relationship between self-report and observed parenting by adult type. Results are displayed in the last two columns of Table 4. For both types of adults (clients and other caregivers), none of the correlations were statistically significant for either affection or involvement. For affection, the correlations ranged from $r = -.19$ to $.06$ for clients and $r = -.01$ to $.18$ for other caregivers. For involvement, the correlations ranged from $r = -.23$ to $.11$ for clients and $r = .03$ to $.15$ for other caregivers. Interestingly, the correlations that were largest in magnitude were in the direction opposite of the hypothesis.

Self- Report and Observational Measures Correlation According to Child Age

Next, I examined the relationship by child age (Table 4). Similar to the results by adult type, there were no significant correlations between observational and self-reported measures for either affection or involvement. For affection, the correlation was $r = .14$ for age group 0 – 5 years, ranged from $r = -.11$ to $.06$ for age group 6 – 9 years, and ranged from $r = -.17$ to $.19$ for age group 10 – 17 years. For involvement, the correlation ranged from $r = .01$ to $.21$ for age group 6 – 9 year and $r = -.12$ to $.02$ for age group 0 -17 years.

Correlation among Observation Measures and Among Self-Report Measures

Although the primary study hypothesis examining the correlations between constructs measures via self-report and observational measures was not supported, we noted several significant correlations among the observational measures and among the self-report measures. For the observational measures, CAIC-Affection and PICCOLO were significantly correlated ($r = .69$, $p = .01$) and CAIC and Fast Track were significantly correlated ($r = .27$, $p = .01$). For the self- report measures, APQ and PCC were significantly correlated ($r = .25$, $p = .01$).

Discussion

The goals of this study were to examine the relationship between self-report and observational measures of parenting behaviors (affection and involvement) in coerced and non-coerced populations and to examine the relationship between self-report and observational measures in parenting behaviors based on the age of the child. I hypothesized that there would be stronger correlation among the non-coerced group (i.e. other caregivers) compared to the drug court clients. I also predicted that the relationship between self-report and observational measures of parents with younger children would be stronger compared to parents of older aged children.

Overall, there was no significant relationship found between self-report and observational measures for either affection or involvement constructs. When correlations were examined separately according to client type or age of child, none were significant. Thus, the main hypotheses were not supported.

There are several possible explanations as to why no correlation was found. One explanation centers around the constructs compared (affection and involvement), and the specific measures used to capture each. Specifically, it may have been the case that the self-reported and observational measures targeted different aspects of the construct. For example, for the construct affection, positive parenting subscale of APQ (self-report) was compared to one item of Fast Track. One of the questions APQ subscale survey asked was “You let your child know when he/she is doing a good job with something”, compared to a question asked on the Fast Track survey “displays positive physical contact?”. Certainly, positive talk and positive physical contact are both aspects of affection, but are different behaviors that may not always be related. Also, the self-report survey asks about behaviors generally, while the observational measures assesses behavior in a short specific context. For involvement, parent communication subscale (6 items) of PCC (self- report) was compared to one item of CAIC (observational measure). Again, there was somewhat of a mismatch between items. For example, one of the PCC subscale items asked “Do you and your child come to a solution when you talk about a problem? (Rating on a scale of 1 to 5), CAIC item asked “how engaged and/involved is the caregiver in the conversation with the child?”(Rating on a scale of 1 to 5. In this case, the observational assessment question (CAIC) was a more generalized impression of the observer and not a specific behavior compared to self-report survey (PCC).

Although, self-reports are the most common method used in assessing parenting, the literature mentioned above supports that self-reports cannot be held at the level of observational measure, which is

considered superior because responses are more objective (Bennett, Sullivan & Lewis, 2006; Fassnacht, 1982; Hawes & Dadds, 2006). While self-reports have the advantages of flexibility, ease of administration, and provide efficiency in collecting different conceptual data in a single setting; the disadvantages outweigh the advantages. Perceptual bias may have played a role in this study. Parents rated themselves very positively on the self-report scales (perhaps perceiving that their skills were better than they were), and this could affect the overall correlation. Also for this study, many approaches were applied during the data collection process to improve the validity of self-reports. Multiple types of measures (many self-report and observational methods) were used to assess a construct, questionnaires were answered on a computer with recorded voice to reduce the socially desirable responses and missing data. Although these measures were taken, as the results indicated, there was no correlation found between the observed and self-report measures.

When comparing results of both measures in the drug court client population, social desirability bias also could have played a role. The pressure of social approval, the desire to avoid disclosure of risky behaviors and the fear of losing custody of their children, could have led the participants to rate them higher, causing distorted results. Care was taken with participants to make sure they were aware that their responses would be kept private and not shared with the program staff. This is especially important for drug court clients. Future studies should assess social desirability bias in these populations to understand the impact of it on the results.

Observational methods are considered more 'objective' because a third person (coder) was grading the video, blinded to the participant's status. The coders also had good reliability. These videos were recorded in participants' natural settings and therefore the parents, other caregivers and children were assumed to be more relaxed and behavior more naturally. However, I believe biases can also affect observational data. Participants will naturally behave more positively when being observed than they

would otherwise. Coders may have a natural tendency to rate parents positively because they don't want to think of anyone as a 'bad parent'.

Limitations

There were several limitations with the data that was analyzed, the first being the sample size. Although the sample size was moderate (n=128), there was a larger number of drug court clients (n= 74) compared to other caregivers (n=48). Furthermore, when analyzing correlations by child age, the number of participants decreased; the lowest was for children aged 0-5 years (n=22). In addition to the sample size, this data may not be generalizable to different populations.

Another limitation was although there was reliability between the coders, there is currently no external validation of the observational measures and coding scheme. Future work should examine data to establish the validity of the observed data in this sample.

Conclusion

Because parenting behaviors have such a strong impact on children's health and well-being, it is critical that we understand how to efficiently and effectively assess parenting skills. Easy and efficient measures are needed to gauge parents' improvements from programs, and assess behaviors in research studies. The two primary methods of assessment are self-report and observation. The former is more efficient, but the latter is considered more valid. Though the current study did not shed light on the relationship between these two assessment methods, it does not undermine the importance of the question. Certainly, the current research suggest that self-reports are not interchangeable with observational measures. One future direction of the research would be to examine CAIC (observational tool) in more detail. In future studies, when comparing constructs in self-reports and observational

methods, items should be associated according to the concept targeted rather than using the generalized subscales. Future analyses in these data should validate the two types of measures by examining how each relates to outcomes. Though the two measures of parenting were unrelated it is possible that one or both would relate to specific outcomes.

Table 1: Demographics of Drug Court and Other Caregiver Participants

	All Participants (N=128)		Drug Court Participants (N=74)		Other Caregivers (N=48)		p-value ($\alpha=.05$)
	N	%	n	%	n	%	
Female	80	62.5	41	55.4	39	72.2	0.05
Race							0.71
White	75	58.6	44	59.5	31	57.4	
Black	48	37.5	28	37.8	20	37	
Other	5	3.9	2	2.7	3	5.6	
Married	76	59.4	38	51.3	38	70.4	0.03
Educational Status							0.21
< HS	21	16.4	13	17.6	8	14.8	
HS Graduate	48	37.5	23	31.1	25	46.3	
Some College	59	46.1	38	51.4	21	38.9	
Employment Status							0.003
Unemployed	29	22.7	9	12.2	20	37	
< 30 hrs/ wk	34	26.6	24	32.4	10	18.5	
+ 30 hrs/ wk	65	50.8	41	55.4	24	44.4	
Annual Household Income							0.62
< \$25,000	55	43	34	46	21	38.9	
\$25-49,000	46	35.9	26	35.1	20	37	
> \$50,000	18	14.1	9	12.2	9	16.7	
Number of Adults in Home							0.11
1	20	15.6	12	16.2	8	14.8	
2	73	57.0	37	50	36	66.7	
3+	25	10.2	16	21.6	9	16.7	
Additional Income Received	127	99.2	73	98.7	54	100	0.39
Additional Support Services Received	67	52.3	34	46	33	61.1	0.09
Custody Status							0.65
Non-custodial	57	44.5	32	43.2	25	46.3	
Shared or Partial	45	35.2	23	31.1	22	40.7	
Full	3	2.3	2	2.7	1	1.9	
Other	18	14.1	14	18.9	4	7.4	

Table 2. Descriptive Statistics on Affection by type of participant

	Drug Court Participants			Other Caregivers		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
<i>Observational Measures</i>						
CAIC	49	4.24	0.66	38	4.14	0.70
Fast Track	49	0.40	0.60	38	0.40	0.62
PICCOLO	51	1.46	0.32	41	1.46	0.29
<i>Self-reported measure</i>						
APQ-Affection	64	27.13	2.81	44	27.32	2.99

Table 3. Descriptive Statistics on Involvement by type of participant

	Drug Court Participants			Other Caregivers		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
<i>Observational measures</i>						
CAIC	49	4.40	0.59	38	4.27	0.79
Fast Track	49	0.96	0.30	38	0.97	0.29
<i>Self-reported measures</i>						
APQ- involvement	64	39.22	6.49	44	40.52	5.53
PCC	64	4.06	0.70	44	4.00	0.76

Table 4. Correlations between Self-reported and Observational Measures for Affection and Involvement according to participant type (Drug Court Clients and Other Caregivers)

	Overall (n = 128)	Drug Court Client (n = 74)	Other Caregivers (n = 54)
<i>Affection</i>			
CAIC – APQ	r = -.03 p = 0.76 (n = 85)	r = -.19 p = 0.19 (n = 49)	r = .17 p = 0.32 (n = 36)
Fast Track—APQ	r = .03 p = .80 (n = 85)	r = .06 p = 0.67 (n = 49)	r = -.01 p = 0.94 (n = 36)
PICCOLO – APQ	r = .06 p = .64 (n = 71)	r = -.01 p = 0.94 (n = 41)	r = .18 p = 0.33 (n = 30)
<i>Involvement</i>			
CAIC—APQ	r = -.05 p = .62 (n = 85)	r = -.23 p = 0.12 (n = 49)	r = .11 p = 0.51 (n = 36)
CAIC- PCC	r = .08 p = 0.49 (n = 85)	r = .11 p = 0.43 (n = 49)	r = .03 p = 0.88 (n = 36)
FastTrack- APQ	r = .07 p = 0.55 (n = 85)	r = .03 p = 0.82 (n = 49)	r = .10 p = 0.55 (n = 36)
FastTrack- PCC	r = .08 p = 0.46 (n = 85)	r = .04 p = 0.80 (n = 49)	r = .15 p = 0.39 (n = 36)

Table 5: Correlations between Self-Report and Observational Measures for Affection and Involvement According to Age Group

	Parents of kids 0-5 (n= 31)	Parents 6-9 (n = 47)	Parents of kids 10+ (n = 37)
<i>Affection</i>			
CAIC – APQ	-	r = .06 p = .69 (n = 47)	r = -.17 p = .29 (n = 37)
Fast Track—APQ	-	r = -.11 p = .47 (n = 47)	r = .19 p = .27 (n = 37)
PICCOLO – APQ	r = .14 p = .54 (n = 22)	r = -.07 p = .64 (n = 47)	-
<i>Involvement</i>			
CAIC—APQ	-	r = .01 p = .96 (n = 47)	r = -.12 p = .49 (n = 37)
CAIC- PCC	-	r = .11 p = .46 (n = 47)	r = .01 p = .94 (n = 37)
FastTrack- APQ	-	r = .10 p = .52 (n = 47)	r = -.05 p = .78 (n = 37)
FastTrack- PCC	-	r = .21 p = .17 (n = 47)	r = .02 p = .91 (n = 37)

*14 participants missing

References:

- . (n.d.). Retrieved August 22, 2017, from <https://fasttrackproject.org/techrept/p/pcp>
- Acquilino, W. S. (1994). Interview mode effects in surveys of drug and alcohol use. *Public Opinion Quarterly*, 58, 210-240.
- Allen, R. E., & Oliver, J. M. (1982). The effects of child maltreatment on language development. *Child abuse & neglect*, 6(3), 299-305.
- Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of multidisciplinary healthcare*, 9, 211.
- Arias, I., Leeb, R. T., Melanson, C., Paulozzi, L. J., & Simon, T. R. (2008). Child maltreatment surveillance; uniform definitions for public health and recommended data elements.
- Arney, F. M. (2004). A comparison of direct observation and self-report measures of parenting behaviour (Doctoral dissertation).
- Arnold, D. S., O'leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological assessment*, 5(2), 137.
- Aunola, K., & Nurmi, J. E. (2005). The role of parenting styles in children's problem behavior. *Child development*, 76(6), 1144-1159.
- Bannister, P., Burman, E., Parker, I., Taylor, M., & Tindall, C. (1994). *Qualitative Methods in psychology*. Buckingham, OUP, 221-238.
- Barber, B. K. (1997). Introduction: Adolescent socialization in context-connection, regulation, and autonomy in multiple contexts.
- Bennett, D. S., Sullivan, M. W., & Lewis, M. (2006). Relations of parental report and observation of parenting to maltreatment history. *Child maltreatment*, 11(1), 63-75.
- Bennett, D., Kang, M., Alperstein, G., & Kakakios, M. (2004). Collaborative strategies for improving the health of young people. *Hong Kong J Paediatr*, 9, 295-302.
- Brown, D. W., Anda, R. F., Felitti, V. J., Edwards, V. J., Malarcher, A. M., Croft, J. B., & Giles, W. H. (2010). Adverse childhood experiences are associated with the risk of lung cancer: a prospective cohort study. *BMC public health*, 10(1), 20.
- Chaffin, M., Bard, D., Bigfoot, D. S., & Maher, E. J. (2012). Is a structured, manualized, evidence-based treatment protocol culturally competent and equivalently effective among American Indian parents in child welfare?. *Child maltreatment*, 17(3), 242-252.
- Chu, J. T. W., Farruggia, S. P., Sanders, M. R., & Ralph, A. (2012). Towards a public health approach to parenting programmes for parents of adolescents. *Journal of Public Health*, 34(suppl_1), i41-i47.
- Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological assessment*, 6(4), 284.

- Cicchetti, D., & Carlson, V. (Eds.). (1989). *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. Cambridge University Press.
- Costello, A. H., & McNeil, C. B. (2014). Differentiating parents with faking-good profiles from parents with valid scores on the Child Abuse Potential Inventory. *Journal of Family Violence*, 29(1), 79-88.
- Culp, R. E., Watkins, R. V., Lawrence, H., Letts, D., Kelly, D. J., & Rice, M. L. (1991). Maltreated children's language and speech development: abused, neglected, and abused and neglected. *First Language*, 11(33), 377-389.
- Dawe, S., Taplin, S., & Mattick, R. P. (2017). Psychometric investigation of the Brief Child Abuse Potential Inventory in mothers on opioid substitution therapy. *Journal of family violence*, 32(3), 341-348.
- Dong, M., Dube, S. R., Felitti, V. J., Giles, W. H., & Anda, R. F. (2003). Adverse childhood experiences and self-reported liver disease: new insights into the causal pathway. *Archives of Internal Medicine*, 163(16), 1949-1956.
- Dowdney, L., Mrazek, D., Quinton, D., & Rutter, M. (1984). OBSERVATION OF PARENT-CHILD INTERACTION WITH TWO-TO THREE-YEAR-OLDS. *Journal of Child Psychology and Psychiatry*, 25(3), 379-407.
- Egeland, B., & Sroufe, A. (1981). Developmental sequelae of maltreatment in infancy. *New Directions for Child and Adolescent Development*, 1981(11), 77-92
- Egeland, B., Sroufe, L. A., & Erickson, M. (1983). The developmental consequence of different patterns of maltreatment. *Child abuse & neglect*, 7(4), 459-469.
- Erickson, M. F., Egeland, B., & Pianta, R. (1989). The effects of maltreatment on the development of young children.
- Essau, C. A., Sasagawa, S., & Frick, P. J. (2006). Psychometric properties of the Alabama parenting questionnaire. *Journal of Child and Family Studies*, 15(5), 595-614.
- Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child abuse & neglect*, 36(2), 156-165.
- Fassnacht, G. (1982). Theory and practice of observing behaviour. *Behavioural Development: A Series of Monographs*.
- Feinberg, M., Neiderhiser, J., Howe, G., & Hetherington, E. M. (2001). Adolescent, parent, and observer perceptions of parenting: Genetic and environmental influences on shared and distinct perceptions. *Child Development*, 72(4), 1266-1284.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, 14(4), 245-258.

- Felitti, M. D., & FVJ, A. M. (1998). MRF, Nordenberg MD D, Williamson MS PDF, Spitz MS MAM, Edwards BA V, et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med*, 14, 245-258.
- Finkelhor, D., Jones, L. M., & Shattuck, A. (2011). Updated Trends in Child Maltreatment, 2010.
- Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities.
- Gardner, F. (2000). Methodological issues in the direct observation of parent–child interaction: Do observational findings reflect the natural behavior of participants?. *Clinical child and family psychology review*, 3(3), 185-198.
- Goodhart, D. E. (1985). Some psychological effects associated with positive and negative thinking about stressful event outcomes: Was Pollyanna right. *Journal of personality and social psychology*, 48(1), 216-232.
- Gowan, J. (1993). Effects of neglect on the early development of children: Final report. Washington, DC: National Clearinghouse on Child Abuse and Neglect, National Center on Child Abuse and Neglect, Administration for Children and Families.
- Hawes, D. J., & Dadds, M. R. (2006). Assessing parenting practices through parent-report and direct observation during parent-training. *Journal of Child and Family Studies*, 15(5), 554-567.
- Hetherington E. M., & Clingempeel W. G. (1992). Coping with marital transitions: A family systems perspective. *Monographs of the Society for Research in Child Development*, 57 (2–3, Serial No. 227).
- Holden, G. W. (2001). Parenthood. In J. Touliatos, B.F. Perlmutter, & M.A. Straus (Eds.), *Handbook of family measurement techniques* (Vol. 1, pp. 137-149). Thousand Oaks, CA: Sage
- House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual review of sociology*, 14(1), 293-318.
- Karreman, A., Van Tuijl, C., Van Aken, M. A., & Deković, M. (2008). Parenting, coparenting, and effortful control in preschoolers. *Journal of Family Psychology*, 22(1), 30.
- Kaufman, J. G., & Widom, C. S. (1999). Childhood victimization, running away, and delinquency. *Journal of Research in Crime and Delinquency*, 36(4), 347-370.
- Kendziora, K. T., & O'Leary, S. G. (1993). Dysfunctional parenting as a focus for prevention and treatment of child behavior problems. *Advances in clinical child psychology*.
- Leeb, R. T., Paulozzi, L. J., Melanson, C., Simon, T. R., & Arias, I. (2008). Child Maltreatment Surveillance. Uniform Definitions for Public Health and Recommended Data Elements. Centers for Disease Control and Prevention. *Atlanta*.
- Lipman, E. L., & Boyle, M. H. (2008). Linking poverty and mental health: A lifespan view. Provincial Centre of Excellence for Child and Youth Mental Health at CHEO.
- Locke, L. M., & Prinz, R. J. (2002). Measurement of parental discipline and nurturance. *Clinical psychology review*, 22(6), 895-929.

- Loeber, R., Farrington, D. P., Stouthamer-Loeber, M., & Van Kammen, W. B. (1998). *Antisocial behavior and mental health problems: Explanatory factors in childhood and adolescence*. Psychology Press.
- Mahapatra, S. & Batul, R. (2016,). Psychosocial Consequences of Parenting [PDF]. IOSR Journal Of Humanities And Social Science (IOSR-JHSS). Volume 21, Issue 2, Ver. V. PP 10-17 e-ISSN: 2279-0837, p-ISSN: 2279-0845.
- Manly, J. T., Kim, J. E., Rogosch, F. A., & Cicchetti, D. (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. *Development and psychopathology*,13(4), 759-782.
- Maxfield, M. G., & Widom, C. S. (1996). The cycle of violence: Revisited 6 years later. *Archives of pediatrics & adolescent medicine*, 150(4), 390-395.
- Morsbach, S. K., & Prinz, R. J. (2006). Understanding and improving the validity of self-report of parenting. *Clinical Child and Family Psychology Review*, 9(1), 1-21.
- Mrazek, D. A., Dowdney, L., Rutter, M. L., & Quinton, D. L. (1982). Mother and preschool child interaction: A sequential approach. *Journal of the American Academy of Child Psychiatry*, 21(5), 453-464.
- National Research Council; Division of Behavioral and Social Sciences and Education; Commission on Behavioral and Social Sciences and Education; Panel on Research on Child Abuse and Neglect. (1993, January 01). *Understanding Child Abuse and Neglect*. Retrieved May 21, 2017, from <https://www.nap.edu/catalog/2117/understanding-child-abuse-and-neglect>
- National Scientific Council on the Developing Child (2004). *Young Children Develop in an Environment of Relationships: Working Paper No. 1*. Retrieved from www.developingchild.harvard.edu.
- Ogawa, J. R., Sroufe, L. A., Weinfield, N. S., Carlson, E. A., & Egeland, B. (1997). Development and the fragmented self: Longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and psychopathology*, 9(4), 855-879.
- Ondersma, S. J., Chaffin, M. J., Mullins, S. M., & LeBreton, J. M. (2005). A brief form of the Child Abuse Potential Inventory: Development and validation. *Journal of Clinical Child and Adolescent Psychology*, 34(2), 301-311.
- Paulhus, D. L., & Vazire, S. (2007). The self-report method. *Handbook of research methods in personality psychology*, 1, 224-239.
- Perez, C. M., & Widom, C. S. (1994). Childhood victimization and long-term intellectual and academic outcomes. *Child abuse & neglect*, 18(8), 617-633.
- Power, T. G. (2013). Parenting dimensions and styles: a brief history and recommendations for future research. *Childhood Obesity*, 9(s1), S-14.
- Rivera, B., & Widom, C. S. (1990). Childhood victimization and violent offending. *Violence and victims*, 5(1), 19.
- Robinson, E. A., & Eyberg, S. M. (1981). The dyadic parent-child interaction coding system: Standardization and validation. *Journal of consulting and clinical psychology*, 49(2), 245.

- Roggman, L. A., Cook, G. A., Innocenti, M. S., Jump Norman, V. K., & Christiansen, K. (2009). PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes) User's Guide.
- Runyan D, Wattam C, Ikeda R, Hassan F, Ramiro L. Child abuse and neglect by parents and caregivers. In: Krug E, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, editors. World Report on Violence and Health. Geneva (Switzerland): World Health Organization; 2002. p. 59–86.
- Runyan, D., Wattam, C., Ikeda, R., Hassan, F., & Ramiro, L. (2002). Child abuse and neglect by parents and other caregivers, 59–86
- Sanders, M. R., & McFarland, M. (2000). Treatment of depressed mothers with disruptive children: A controlled evaluation of cognitive behavioral family intervention. *Behavior Therapy*, *31*(1), 89-112.
- Sanders, M. R., Pidgeon, A. M., Gravestock, F., Connors, M. D., Brown, S., & Young, R. W. (2004). Does parental attributional retraining and anger management enhance the effects of the Triple P-Positive Parenting Program with parents at risk of child maltreatment?. *Behavior Therapy*, *35*(3), 513-535.
- Sedlak, A. J., Mettenburg, J., Basena, M., Peta, I., McPherson, K., & Greene, A. (2010). Fourth national incidence study of child abuse and neglect (NIS-4). Washington, DC: US Department of Health and Human Services. Retrieved on July, 9, 2010.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: uses in assessing rater reliability. *Psychological bulletin*, *86*(2), 422.
- Skinner, E., Johnson, S., & Snyder, T. (2005). Six dimensions of parenting: A motivational model. *Parenting: Science and Practice*, *5*(2), 175-235.
- Strayhorn, J. M., & Weidman, C. S. (1988). A parent practices scale and its relation to parent and child mental health. *Journal of the American Academy of Child & Adolescent Psychiatry*, *27*(5), 613-618.
- Swahn, M. H., Whitaker, D. J., Phippen, C. B., Leeb, R. T., Teplin, L. A., Abram, K. M., & McClelland, G. M. (2006). Concordance between self-reported maltreatment and court records of abuse or neglect among high-risk youths. *American Journal of Public Health*, *96*(10), 1849-1853.
- Tourangeau, R., & Smith, T. W. (1996). Asking sensitive questions: The impact of data collection mode, question format, and question context. *Public opinion quarterly*, *60*(2), 275-304.
- Tourangeau, R., Rasinski, K., Jobe, J. B., Smith, T. W., & Pratt, W. F. (1997). Sources of error in a survey on sexual behavior. *Journal of Official Statistics*, *13*(4), 341.
- Turner, C.F., Lessler, J.T., & Devore, J. (1992). Effects of mode of administration and wording on reporting drug use. In C. Turner, J. Lessler, & J. Gfoerer (Eds.), *Survey measurement of drug use: Methodological studies* (pp. 177-220). Rockville, MD: National Institute on Drug Abuse.
- U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2017). Child Maltreatment 2015. Available from <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>.