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Reflective Functioning in Fathers: An Initial Empirical Examination

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Abstract

Parental reflective functioning (RF) is a parent's capacity to understand and take into account the mental states of their children. Research on RF is somewhat scarce and has focused primarily on mothers. Mothers high in RF have improved parent-child relationships in terms of attachment, sensitivity, and more balanced mental representations of their children, in addition to displaying more caregiving behaviors than those low in this characteristic. Moreover, better maternal RF appears to be a key to the parenting success of substance abusing mothers and predicts changes in the caregiving behaviors of these mothers following attachment-based interventions. Research on RF in fathers, on the other hand, is limited to a few studies. This research suggested that about half of new fathers have deficits in RF, but did not assess predictors of RF or measure RF in relation to parenting. The present study sought to present an initial exploration of the association of RF to the parenting of fathers in a sample of 79 fathers, approximately half with substance abuse and violence problems and half without. Fathers were administered the Parent Developmental Interview and self-report measures of parenting. Results suggested that less education and increased drug use are associated with lower RF. RF was not predictive of self-reported parenting behaviors in this sample. Although RF may vary with substance abuse level and socioeconomic status among both men and women, these results indicate RF may be less associated with parenting behaviors of fathers. However, further research in this area is needed.

Keywords

Reflective functioning; fathers; parenting; mentalization; attachment

Reflective functioning (RF), or the ability to understand others' actions as a function of underlying psychological and emotional states and motivations, is a skill important to the development of healthy attachments and interpersonal functioning (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). RF is thought to develop in the context of securely attached mother-infant relationships: The mother is able to recognize and anticipate the child's state of mind and act upon this knowledge to best care for the child, leading to secure attachment, and passing down the ability to accurately reflect others' states of mind (Fonagy, Steele, Steele, et al., 1991).

Although theorists have long conceptualized RF as developing in the context of parent-child relationships, theory and research on RF among parents has been scant until recently. Slade

(2005) was one of the first to systematically explain how individuals with reduced reflective capacities often become parents themselves, and bring their poorer mentalization skills to bear on their own parent-child relationships (Slade, 2005). Applied to parenting, RF is taken to be parents' capacity to understand and take into account the mental states of their children (Slade, 2005). For instance, a mother high in RF might acknowledge a child's negative feelings, despite prohibiting some behavior (i.e., "I know you feel sad when you cannot stay at your friends' longer, but we really need to leave"). Theories of parental RF suggest that it can directly affect parenting behavior. Those who can envision the internal world of their children may be better able to help direct and regulate their child's emotional state (Slade, 2005). Furthermore, those with the ability to reflect their child's state of mind may more easily develop attachments to their children (Slade, 2005). With this theoretical background in place, empirical research on parental RF expanded, though it is still somewhat scarce and has focused primarily on mothers with the goal of understanding the relationship of RF with parental functioning.

Specifically, studies have examined relationships of RF with maternal caregiving behavior. Enhanced RF is associated with improved mother-child relationships in terms of attachment, sensitivity, and communication (Borelli, West, Decoste, & Suchman, 2012; Grienerberger, Kelly, & Slade, 2005). Moreover, mothers with greater RF are more likely to have balanced mental representations of their children (e.g., they understand that their children can engage in bad behaviors, without being "bad" themselves; Schechter et al., 2005). Importantly, RF is predictive of parenting behavior beyond other salient maternal factors, such as educational status and depressive symptoms (Rosenblum, McDonough, Sameroff, & Muzik, 2008), which suggests that for mothers RF may be an important area of focus for intervention.

Better maternal RF appears to be important to the parenting success of substance abusing mothers, who are at risk for poor outcomes. For instance, among mothers with substance use problems, enhanced RF abilities are associated with a decreased likelihood of relapse and foster care use (Pajulo et al., 2012). Additionally, attachment-based interventions for substance abusing mothers improve caregiving behaviors by enhancing RF (Pajulo et al., 2009; Suchman, Decoste, McMahon, Rounsaville, & Mayes, 2011; Suchman, Decoste, Rosenberger, & McMahon, 2012). Although there is support for the positive role of RF in the parenting behavior of mothers and the functioning of mother-child relationships, only two quantitative studies to date have examined RF in fathers.

The first, by Madsen, Lind, and Munck (2007) was primarily descriptive in nature. The authors administered the Fatherhood Attachment Interview, which assesses the ability of father's to reflect their infant's states of mind, to 41 expectant Danish fathers 3 months before the births of their children. The authors found that approximately half of the fathers in their sample were deficient in the ability to reflect their infants' states of mind. The second study measured fathers' and mothers' RF in relation to their children's anxiety levels (Esbjörn et al., 2013). The researchers reported that mothers had significantly better RF than fathers, and that poorer mothers' and fathers' RF were associated with increased child anxiety. This study suggests that RF may be an important factor in the parenting of both mothers and fathers. However, studies have yet to examine the factors that influence RF in men following the birth of their children and RF's relevance to parenting behaviors.

Previous research suggests that father's attachment representation, which is closely related to RF ability (Slade, 2005), is an important predictor of positive father-child relationships and child outcomes. Indeed, fathers who are securely attached have less abuse potential, parenting stress, and hostile parenting practices, but greater developmental knowledge and superior parenting self-efficacy (Howard, 2010; McFarland-Piazza, Hazen, Jacobvitz, & Boyd-Soisson, 2012). These benefit of secure attachment to parenting may create more secure father-infant attachments (Brown, McBride, Shin, & Bost, 2007), which in turn is associated with improved childhood outcomes (DeKlyen, Speltz, & Greenberg, 1998; Gaumon & Paquette, 2013; Li, Yin, Cai, & Su, 2012). In other words, similar to those of mothers, fathers' attachment representations have an influence on parenting and therefore father-child attachments. However, whether RF specifically is associated with parenting behaviors of fathers has yet to be studied. This research question thus remained unanswered and could have major implications for intervention development.

The current study sought to fill these gaps in the literature with two specific goals: 1) to examine factors associated with RF in fathers, and 2) to determine if RF was associated with the self-reported parenting behaviors of fathers. We selected factors that might be associated with fathers' RF based on the limited literature available. Attachment, and relatedly, trauma, domestic violence history, and substance use exposure history, were chosen because healthy RF is thought to be learned and developed in the context of positive early attachments (Kearney & Cushing, 2012; Madsen, Lind, & Munck, 2007; Schechter et al., 2005; Slade, 2005). Additionally, drug and alcohol use was measured because individuals who engage in substance abuse are known to have difficulties with mentalization, possibly as a consequence of their drug use (Pajulo, Suchman, Kalland, & Mayes, 2006; Philips, Kahn, & Bateman, 2012). Similarly, we assessed intimate partner violence (IPV), defined as physically aggressive behavior directed at a romantic partner, and criminal conviction history because aggressive individuals are likely to be lower in RF and improved RF is thought to decrease the likelihood that an individual will engage in violence (Taubner, White, Zimmermann, Fonagy, & Nolte, 2012; Taubner et al., 2013). Next, frequency of child contact and whether or not the child lived with the father were assessed because it is thought that RF can be improved through repeated positive, parent-child interactions (Reynolds, 2003). Finally, the age and gender of the children were examined in relation to RF because it is unknown whether these demographic factors may influence parental RF. We explored RF's relationship with each of these variables, as well as parenting outcomes. We predicted that fathers with higher levels of RF would report better parenting behaviors, similar to the literature in mothers, because they are able to accurately understand their children's internal states. As a result, they are more likely to organize their behaviors to support the child in a manner that is in accord with their current emotions and cognitions.

Methods

Sample

Participants in the study were 79 fathers recruited into the Comparative Study on Fathering (Stover, Easton, & McMahon, 2013), which was designed to assess differences in parenting of men with IPV, SA, and controls. More than half of the fathers (52.50%) had histories of

IPV perpetration and co-occurring substance abuse as reported at the time of the interview. One participant had a history of SA only, and the remaining 47.50% had neither of these problems. The participants reported using a variety of substances, including alcohol (66.30%), marijuana (25.00%), opiates (6.30%), hallucinogens (2.50%), and cocaine (2.60%). The fathers ranged in age from 20 to 52, with mean age 34.68. They reported their races/ethnicities as African American (56.30%), White/Caucasian (17.50%), Hispanic (15.00%), Mixed (10.00%), and other (1.30%). More than half of the sample was employed (53.20%), the mean monthly income was \$1,003.95 ($SD = \$1,657.52$), and the average number of years of education for the participants was 12.46 ($SD = 1.66$). Many fathers (47.50%) lived with their child, and as a whole the fathers saw their children an average of 20.40 ($SD = 9.61$) days a month. The average number of criminal convictions reported by fathers was 1.49 ($SD = 2.45$). Moreover, 66.30% and 33.80% of fathers reported a history of exposure to substance abuse or IPV in childhood, respectively. Finally, the average age of fathers' children was 3.41 ($SD = 1.35$) and 58.80% of children were male.

Procedure

Fathers were recruited into the Comparative Study on Fathering by flyers posted in the Substance Abuse Treatment Unit of a Department of Psychiatry, Court Support Services Division, Family Violence Education Groups, unemployment offices, preschools, pediatric clinics and community agencies in New Haven, CT. Men were screened by phone for eligibility (biological father of a child between 2 and 6 years of age with at least monthly visitation) and then met in person for a single two-hour session with trained research assistants to complete informed consent and study measures. Recruitment for the original study was focused on collecting a sample of fathers of young children with approximately half struggling with substance use and aggression and half without these issues. Data were collected regarding their relationship and parenting behavior toward their oldest biological children aged two through six years. Participants were paid \$50 for their time and the study was approved by the Yale University School of Medicine Human Investigations Committee.

Measures

Fathers completed a series of demographic and family history questions and standardized measures of their parenting and their own histories of childhood abuse.

Childhood Trauma Questionnaire-Short Form (CTQ; Bernstein & Fink, 1998) is a 28-item measure that was used to assess history of childhood abuse and neglect experienced by the fathers in the study. The CTQ consists of five factors: emotional abuse, emotional neglect, sexual abuse, physical abuse, and physical neglect. The high internal consistency of the CTQ factors has been shown in multiple samples including clinical, community, adult, and adolescent populations. The CTQ has demonstrated excellent convergent and discriminant validity and good sensitivity for all forms of maltreatment (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Bernstein & Fink, 1998; Bernstein et al., 2003; Scher, Stein, Asmundson, McCreary, & Forde, 2001). We used a total score of abuse and neglect as a measure of trauma history in this sample. The internal consistency of this scale was .63.

Experiences in Close Relationships Revised (ECR-R; Fraley & Waller, 1998) measures how an individual generally feels in romantically close adult relationships. The participant is asked not to respond about their feelings and experiences with their current or most recent partner, but how they feel and respond in general in romantic relationships. Participants respond to each item on a 7-point likert scale. Items make up two 18-question subscales, consistent with anxious attachment (e.g., I am afraid I will lose my partner's love; I worry that romantic partners won't care about me as much as I care about them) or avoidant attachment behaviors (e.g., I get uncomfortable when a romantic partner wants to be very close; I prefer not to show a partner how I feel deep down) and generate an Anxious and Avoidant Total Score. The ECR-R has excellent test-retest reliability and predictive validity (Sibley, Fischer, & Liu, 2005), good internal consistency and studies support the anxious and avoidant factors of the measure (Fairchild & Finney, 2006; Sibley & Liu, 2004). It has been used in multiple studies of perpetrators of intimate partner violence (Dye & Davis, 2003; Fairchild & Finney, 2006; Goldenson, Geffner, Foster, & Clipson, 2007; Langhinrichsen-Rohling, Palarea, Cohen, & Rohling, 2000) with IPV perpetrators showing greater attachment insecurity on the two factors. The internal consistencies of the anxiety and avoidant subscales were .91 and .89, respectively.

The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was administered to fathers to obtain a self-report measure of their use of violence in the last year and over the course of the relationship with the mother of the target child. The CTS2 was used to assess the presence of IPV. The CTS2 is the most widely used measure in the research literature on IPV. We used 12 items on the CTS2 that indexed self-reported physical violence towards a partner. Internal consistency of this scale was .83.

The Parental Acceptance and Rejection Questionnaire (PARQ; Rohner, Khaleque, & Cournoyer, 2005) is a self-report measure that documents frequency of hostile-aggressive parenting behavior. Respondents rate the occurrence of different parenting behaviors along a 4-point scale. Each subscale contains 15-items and has demonstrated good internal consistency and convergent, discriminant, and construct validity (Rohner & Khaleque, 2005). It has now been used in multiple studies with fathers who have perpetrated domestic violence and abused substances (McMahon, Winkel, & Rounsaville, 2008; Stover, Hall, McMahon, & Easton, 2012; Stover, Urdahl, & Easton, 2012). Furthermore, research indicated that the theory of parental acceptance and rejection, on which the PARQ is based, maps well onto measurements of parental attachment (Hughes, Blom, Rohner, & Britner, 2005). The PARQ has demonstrated reliability in several studies (Khaleque & Rohner, 2002) and internal consistency of the hostile-aggressive parenting scale was .73 in this sample. For this study, fathers were asked to rate the frequency of aggressive parenting behaviors occurring in their relationship with their oldest biological child between the ages of two and six years.

Parenting Relationship Questionnaire (PRQ; Kamphaus & Reynolds, 2006) is a self-report measure of parents' perspectives on the parent-child relationship. It has a preschool version specifically for parents of children aged 2–6 years and generates standardized T-scores. It is a published measure with good internal consistency and convergent validity (Bloomquist, August, Lee, Piehler, & Jensen, 2012; Bloomquist et al., 2009; Wiggins, Sofronoff, &

Sanders, 2009). It contains 6 subscales: Attachment, Communication, Discipline Practices, Involvement, Parenting Confidence, and Relational Frustration. High scores indicate positive parenting behaviors. We used the attachment (11 items) and discipline (9 items) subscales in this study; internal consistencies were .74 and .81, respectively. The Attachment Scale of the PRQ is designed to measure the affective, cognitive, and behavioral relationship between a parent and child that results in feelings of closeness, empathy and understanding by the parent for the child. It includes items such as: "I know what my child is thinking," "I can sense my child's mood," and "I know what my child is feeling." The discipline scale assesses a parent's tendency to consistently apply consequences to misbehavior and includes items such as: "It is my responsibility as a parent to punish all of my child's misbehavior," and "Children should do what parents tell them to do." Validation studies of the PRQ indicate a moderate correlation between the PRQ Attachment Scale and the Parent Child Relationship Inventory Parental Support Scale and a small negative correlation with the Attachment Scale of the Parent Stress Inventory, which measures aspects of the parent-child relationship that lead to stress (Kamphaus & Reynolds, 2006).

Addiction Severity Index 5th Edition (ASI; McLellan et al., 1992) is an interview measure assessing the severity of drug use and problems. We used the ASI to determine frequency of alcohol and substance use (measured by the most frequently used drug class) in the past month, as well as criminal conviction history. The ASI has been validated as an assessment instrument in a variety of populations (Makela, 2004), and self-reported drug use on the ASI has been shown to be comparable to drug detection by urinalysis (Denis et al., 2012).

Parent Development Interview-Revised (Slade, Aber, Berger, Bresgi, & Kaplan, 2004) is a 40-item semi-structured interview that assesses fathers' reflections of child-rearing, of their child, and the ways they are like or unlike their own parents. The semi-structured interview was designed to extract the fathers' internal working models of relationships. In particular, questions outlined the fathers' thoughts and feelings about their child and their affective experience of parenting. Interviews were recorded and transcribed verbatim for scoring. Responses to each question were scored on a -1-9 scale, with higher scores indicating greater RF. Total scores for RF are derived from the items and are scaled in the same fashion as the individual items. The PDI has been validated in several different samples (Fonagy, Steele, & Steele, 1991; Fonagy, Steele, Steele, et al., 1991; Grienemberger et al., 2005; Slade et al., 2004; Steele & Steele, 2008a). Coders for this study were blind to any information about the research participants. They received transcribed interviews for coding. Two coders were trained to reliability by the PDI developer Arietta Slade. PDI coder reliability is obtained by attending a two day training, completing 10 training/practice interviews, and then reliably coding 10 PDI interviews with an inter-rater reliability with the developer at .75.

Brief Symptom Inventory (BSI Derogatis & Melisaratos, 1983) is a self-report measure consisting of 53 items that assesses multiple types of psychiatric symptoms. Items are rated on 5-point scale that ranges from 0 (never) to 4 (always). The BSI yields a Global Symptom Inventory (GSI) that indexes total psychological distress. The BSI has high internal consistency and convergent validity with other measures of psychological distress (Boulet & Boss, 1991). Internal consistency of the GSI reliability in this sample was .95.

Results

We first examined all variables for outliers and skewness. No outliers were detected; however, several variables were skewed. We transformed these variables to meet assumptions of normality, utilizing the least severe transformation necessary to remove skew. Consequently, we square root transformed IPV, alcohol use, drug use, and parenting aggression, and inverse transformed childhood trauma. All analyses were run using transformed and raw values. Because results were consistent across these two analytic methods, only raw values are reported in the manuscript (descriptive statistics are presented in Table 1).

Next, we assessed correlations of all continuous variables with RF (see Table 2), as well as independent samples t-tests to determine if RF differed across dichotomous variables. RF was significantly related to two non-parenting variables: it was moderately negatively correlated with drug use frequency and moderately positively correlated with years of education. In relation to parenting behavior, RF was correlated with consistent use of discipline, but not hostile-aggressive parenting or parent-child attachment. RF did not differ based on whether fathers had current co-occurring IPV and SA problems or history of exposure to domestic violence or substance use as children. RF also did not differ based on the gender of fathers' children or whether fathers lived with their children ($t_s = .902$ $p_s = .370$).

To ensure that drug use and education were indeed predictors of RF, we ran a regression analysis with RF as an outcome, while controlling for IPV. We used IPV in this analysis in order to control for sample selection bias, as we recruited individuals with and without IPV histories. As can be seen in Table 3, this regression confirmed the pattern exhibited in the correlations: enhanced RF was predicted by a greater number of years of education and reduced drug use.

Finally, because RF has been shown to be associated with parenting behaviors among mothers and we wanted to examine whether these relationships existed for fathers, we explored the relationship between RF and self-reported parenting in our sample of fathers. To assess whether RF predicts parenting behaviors, we regressed paternal discipline on RF and its related covariates—drug use and education. Power analyses of two-tailed ($p < .05$) regression tests with three predictors, and assuming a sample size of 79, revealed that we could detect effects sizes (r^2) as small as .155 with a power of .80. When entered alone, RF significantly predicted fathers' discipline; however, this relationship did not hold when controlling for related covariates (see Table 4).

Discussion

The purpose of this study was to provide an initial exploration of factors associated with RF among fathers, and to assess the relationship between RF and self-reported parenting behaviors. We accomplished this goal by examining scores on an interview-based measure of RF in a sample of fathers with approximately half with substance abuse and domestic violence histories and half without these issues. Several interesting findings emerged.

Consistent with the literature in mothers, RF was significantly negatively related to drug use (Pajulo et al., 2006). Indeed, drug use is often associated with increased impulsivity and poor affect regulation, which may impair an individual's ability to identify and understand the viewpoints of others (Soderstrom & Skarderud, 2009). RF was also correlated with years of education. One previous study found no association between education and reflectivity (Rosenblum et al., 2008), another found that more explicit mentalization was related to better language abilities among adolescent males (Rutherford et al., 2012), and a final study suggested that RF training was more effective for mothers higher in education (Sadler et al., 2013). Our significant finding of a relationship between RF and education is in concert with the latter two findings and is unsurprising for two reasons. First, education has been shown to be positively related to constructs similar to RF, like empathy (Domes, Hollerbach, Vohs, Mokros, & Habermeyer, 2013). And second, RF is a complex cognitive phenomenon that can be improved with training (Pajulo et al., 2009; Suchman et al., 2011; Suchman et al., 2012), which may be implicitly and/or explicitly provided over time through pedagogy and social interaction during schooling.

However, RF was unrelated to several other constructs, including childhood trauma, exposure to IPV or substance abuse in childhood, recent IPV behaviors, attachment styles in romantic relationships, alcohol use, and child demographic variables. There are several potential explanations for these findings. Some of these null findings may be explained by a restriction in range of some of the variables in the sample. Our sample included a limited range of RF with the mean score of 3 out of a possible 9. Some of our other variables also had restricted range which may have limited our ability to detect differences. For example, child contact was frequent for most fathers in this sample, occurring on average 20 days out of the month, meaning that most fathers frequently saw their children. Although half of our participants had reported an incident of IPV in the last 12 months, the severity of IPV behaviors was generally mild. Thus, do not represent a broad range of severity of IPV. We also did not have fathers at the upper severity of exposure to childhood maltreatment. In other cases, the lack of a relationship of RF may imply no actual association. For instance, alcohol use is a common practice engaged in by most adult men and therefore may not represent a unique risk factor for poor RF (Schiller, Lucas, & Peregoy, 2012), especially when it occurs infrequently, as it did in this sample. Further study is needed to confirm these null associations and further develop the nomological network of RF.

Because RF was associated with parenting behaviors in mothers and we expected that fathers higher in RF would be more skilled at responding appropriately to their children's needs (e.g., Slade, 2005), we tested whether RF would predict self-reported parenting in our sample of fathers. RF was not predictive of fathers' self-reported hostile-aggressive parenting behaviors or attachment to their children in our sample. There was a small significant correlation with positive discipline practices but this association did not remain when education and drug use were entered into regression modeling with RF. Studies with mothers indicate greater RF is associated with more balanced mental representations of their children. This better balance may allow parents to more consistently apply positive discipline recognizing that their children's behaviors are not an indication of their children's characters (e.g., they understand that their children can engage in bad behaviors, without being "bad" themselves; Schechter et al., 2005). Instead, they have the ability to think about

what their children may be thinking and feeling and apply discipline as appropriate to the nuances of a situation rather than in an automatic or mechanical way.

The lack of association with the Attachment Scale of the PRQ was surprising, however close examination of the individual items indicate that some of the items may be associated with both low and high RF. A parent's belief about his understanding of his child's feelings does not necessarily mean his self-perception is accurate or reflective. A parent who reports he almost always knows what his child is feelings may be high in reflective functioning or very low. A parent who has less RF abilities may in fact believe he knows what his child is thinking or feeling even when he does. This self-report measure of attachment is very different than secure attachment measured by observation.

Studies have also shown that men tend to have lower empathy and less developed theories of mind than women (Eisenberg & Lennon, 1983; Walker, 2005). Moreover, a recent study of RF in mothers and fathers indicated that fathers had lower RF scores ($M = 3.42$) than mothers ($M = 4.67$) (Esbjörn et al., 2013). The current sample had a similar mean RF score for fathers ($M = 3.14$). Taken together, these results may suggest a reduced capacity r in men, which is unrelated to their ability to function as parents. Indeed, the median RF score of 3 in the sample was considered questionable or low RF. Fathers with this RF score may use some mental state language but there is no evidence to support that they genuinely understand the implications of mental states on their children. RF statements of this sort are often superficial and suggest a limited reflective capacity. Further studies of RF in fathers are needed with larger samples and greater range in scores on constructs of interest (e.g. attachment styles, trauma histories) to better understand this construct for fathers. Although these findings indicate low overall RF for fathers, this sample represents a group of men with limited financial means, lack of employment, and more limited education.

Studies that examine RF in relation to non-self-report measures of parenting are needed as these measures are subject to reporting bias and social desirability. As mentioned above, self-report measures capture a parent's idea or beliefs about their behaviors and understanding of their child, whereas observational measures are coded for concrete behaviors defined and observed by an outsider. The PRQ Attachment scale assesses a combination of items that address a parent's beliefs about their understanding of their child's thoughts and feelings and items that assess the parent's beliefs about their ability to soothe their child. This construct is quite different than secure attachment as observed during the strange situation or parent sensitivity coded during parent-child interactions. Studies with mothers that have found significant associations between maternal sensitivity have used observational measures rather than self-report measures (Borelli et al., 2012; Grienberger et al., 2005; Rosenblum et al., 2008). Similarly, observational measures of parenting of fathers may also be associated with RF, which remains an empirical research question.

To our knowledge, this was the first study to examine RF in a sample of fathers of young children. It provides important preliminary information about RF in fathers, but it has several noteworthy limitations that must be considered. First, the cross-sectional nature of the data and the makeup of the sample limit generalizability of the findings. This particular sample of fathers was recruited specifically to examine parenting of fathers with co-

occurring histories of IPV and substance abuse compared to community controls. This does not allow for generalizations to other father groups or fathers in general. The range of education was low, with many of the fathers unemployed and living in poverty. Second, the sample of fathers was small. Power analyses revealed a large enough sample size to detect even small effects, but the small sample size limits generalizability. Third, the range of scores for some of our measures was restricted (e.g. mild IPV, low levels of alcohol use). Future research with longitudinal data collection and more diverse sampling is necessary to better understand RF in fathers. It would be particularly important to recruit a sample of fathers that includes men who are well educated. Since RF was associated with education in our sample, it may be that better educated fathers would have higher RF scores. Last, although RF was measured using a coded interview, the parenting and other variables were measured via self-report questionnaires, which may be subject to a socially desirable response bias (Bennett, Sullivan, & Lewis, 2006). Inclusion of collateral informant data from partners or co-parents or direct observation of parenting would strengthen the findings presented here.

This study provides preliminary evidence to suggest that RF in fathers is related to drug use and education level. It provides additional data reporting generally low RF in fathers that must be examined in larger scale studies comparing RF in mothers and fathers to assess whether this is a consistent finding across a body of literature. RF may not be related to self-reported parenting behaviors of fathers and replication of these findings in additional studies examining the relationship of RF to parenting of men are needed to make any firm conclusions.

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Table 1

Descriptive Statistics for Study Variables

Variable	Mean (SD)	Min.	Max.	Possible Range
RF	3.14 (.86)	2	5	1–9
Childhood Trauma	59.14 (9.94)	44	92	28–168
Childhood Exposure to IPV	38.80%	–	–	–
IPV Behaviors	39.60 (31.89)	0	130	0–300
Anxious Romantic Attachment	58.19 (24.39)	18	108	7–126
Avoidant Romantic Attachment	58.45 (19.94)	30	103	7–126
Alcohol Use	3.63 (5.17)	0	28	0–28
Drug Use	4.32 (8.88)	0	28	0–28
Education	12.46 (1.66)	8	17	–
Child Contact	20.40 (9.61)	1	31	1–31
Father's Age	34.68 (8.85)	20	52	–
Parental Aggression	6.56 (4.83)	1	26	1–26
Parental Discipline T-score	47.93 (11.36)	20	67	–
Parent-Child Attachment T-Score	51.19 (9.26)	27	70	–
Childhood Substance Abuse Exposure	66.30%	–	–	–
Criminal Convictions	1.49 (2.45)	0	15	–
Global Symptom Severity	1.47 (.44)	1	2.94	1–4

Note. Categorical variables are presented as percentages.

Table 2

Correlations between Study Variables

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. RF	.06	-.12	.04	.09	.02	-.27*	.28*	-.21	-.10	.01	.23*	.09	.11	.06	.06
2. Childhood Trauma	–	.17	.18	.07	.07	.14	.18	-.10	.16	.29*	.06	-.04	.11	.15	.14
3. IPV Behaviors	–	–	.42***	.46***	.36**	.27*	-.11	.08	-.04	.67***	.08	-.36**	-.13	.25*	.30**
4. Anxious Romantic Attachment	–	–	–	.42***	.18	.18	-.23*	.05	-.16	.24*	.10	-.22	.01	.26*	.59**
5. Avoidant Romantic Attachment	–	–	–	–	.25*	.10	-.13	-.18	-.07	.38**	-.01	-.32**	-.08	.35**	.51***
6. Alcohol Use	–	–	–	–	–	.20	.08	.11	-.09	-.56***	-.03	-.11	.10	.06	.22
7. Drug Use	–	–	–	–	–	–	-.10	.01	-.20	-.24*	-.15	-.21	-.11	-.04	.42***
8. Education	–	–	–	–	–	–	–	.10	.24*	-.10	.04	.00	.18	.03	-.12
9. Child Contact	–	–	–	–	–	–	–	–	.07	.10	-.13	-.07	.02	.04	-.24*
10. Father's Age	–	–	–	–	–	–	–	–	–	.09	-.01	-.03	.41***	.23*	-.11
11. Hostile-Aggressive Parenting	–	–	–	–	–	–	–	–	–	–	.25*	-.27*	-.07	.26*	.32**
12. Parental Discipline	–	–	–	–	–	–	–	–	–	–	–	.06	-.01	.15	.09
13. Parent-Child Attachment	–	–	–	–	–	–	–	–	–	–	–	–	-.02	-.21	-.14
14. Child Age	–	–	–	–	–	–	–	–	–	–	–	–	–	.04	-.11
15. Criminal Convictions	–	–	–	–	–	–	–	–	–	–	–	–	–	–	.20
16. Global Symptom Score	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

*

 $p < .05$

**

 $p < .01$

 $p < .001$

Table 3

Regression Predicting RF from Known Correlates

	B (SE)	R²
IPV	−0.01 (0.02)	
Drug Use	−0.02* (0.01)	
Education	0.14* (0.06)	.13*

*
 $p < .05$

Table 4

Regression Predicting Parental Discipline from RF

		Discipline	
		B (SE)	R²
Step 1	RF	−2.91* (0.11)	.05*
Step 2	RF	−2.69 (1.54)	
	Drug Use	0.12 (0.15)	
	Education	−0.19 (0.81)	.01

*
 $p < .05$