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Concordance between mother and offspring retrospective reports of childhood adversity

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Obtaining accurate accounts of adverse experiences that occur during childhood remains a major issue for researchers examining lifespan models of psychiatric disorder. Documented evidence of abuse and neglect is rarely available as the vast majority of exposed children never come to the attention of the relevant authorities (Ammerman, 1998). Consequently, research into the psychological and physical effects of childhood adversity tends to rely on reports provided by the individual themselves or their close family members. An individual's own retrospective self-report of adverse childhood experiences can potentially present problems in terms of reliability and validity as the person's current mental state, repression of the traumatic events, general processes of forgetting, subsequent events and embarrassment may affect both the likelihood of disclosure and the accuracy of the information provided (Briere & Conte, 1993; Lysaker, Beattie, Strasburger & Davis, 2005; Maughan & Rutter, 1997). However, the weight of evidence suggests that personal accounts of early experience are relatively accurate (see Brewin, Andrews & Gotlib, 1993).

One strategy that has been employed to validate such accounts is to obtain corroboration from a relative of the individual's childhood experiences. For instance, siblings who grew up in the same household have been demonstrated to provide both concordant and corroborating retrospective accounts of the family environment and abuse exposure (Bifulco et al., 1997; Brown, Craig, Harris, Handley & Harvey, 2007). However, other types of corroboration are often required, for example where siblings were separated in childhood, or where they are difficult to track down for assessment, or when they are unaware of some aspects of family adversity (e.g., hidden parental discord or secretive sexual abuse to only one child) or for example if they were very young at the time of the experience (Brown et al., 1997; Platt, 1980). Therefore, obtaining alternative corroborative accounts from older family members who were present for the majority of the target person's childhood would be an advantage in producing valid data.

Indeed, mothers are often ideal candidates for corroboration as they are usually present during their offspring's childhood and can also provide details of other useful aspects of the individual's early experiences (e.g., obstetric complications, pre- and post-natal development), thus potentially saving the researcher both time and money. However, obtaining two sets of accounts can be costly in large studies and sometimes it is not possible to obtain information directly from the individual themselves. For instance, studies based on longitudinal birth cohorts regularly rely on mothers' accounts of young children's exposure

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to adversity as it can be difficult, and perhaps even unethical to question the children directly (Bifulco, Brown, Lillie & Jarvis, 1997; Kinard, 1995). Mothers' accounts of the early childhood environment are also utilised in studies of adults with psychiatric disorders (Cannon et al., 1997). However, it is unknown whether mothers are able to provide retrospectively a reasonably reliable and accurate account of their children's exposure to a range of adverse experiences. Clearly it is quite possible they may under-report or minimise their own abusive and neglectful behaviour towards the child to present a more socially desirable picture of themselves or their partners, due to their style of communicating with others, or because they lack insight into their own past parenting behaviour (Bifulco et al., 1997). This requires investigation to inform the design of future studies in this area.

Therefore, as part of a larger investigation of intergenerational transmission of risk for depression, this study aimed to explore whether maternal retrospective reports of childhood adversity were concordant with those provided directly by their offspring. Examination of this issue is important to investigate whether maternal reports could be used (i) instead of self-reported adversity (e.g., where the individual is mentally unfit, unavailable or too young to be interviewed); and (ii) to corroborate individual's reports of adversity and provide additional information. Concordance of mother-offspring reports has previously been explored in relation to physical abuse, revealing moderate agreement (Tajima, Herrenkohl, Huang & Whitney, 2004), but not other forms of childhood adversity; hence this analysis is intended to further advance the field by exploring concordance for a wider range of adverse childhood experiences. Moreover, this study employed a standardised comprehensive interview measure of childhood adversity that utilises concrete examples and interviewer-based scoring procedures (Bifulco, Brown & Harris, 1994). This should provide a more robust test of concordance than brief self-report questionnaires which are often prone to bias as they rely on respondents' subjective perceptions of their past experiences (Brown & Rutter, 1966).

Method

Participants

The sample comprised 160 high-risk mother-adolescent/young adult offspring pairs residing in Islington, North London UK for whom full material from mother and offspring was available for 146 pairs. The data collection was approved by the Islington Health Authority Ethics Committee, with all respondents giving informed consent and mothers agreeing to offspring being interviewed. All women registered with General Practitioners in this catchment area were sent a screening questionnaire (7600) to ascertain high-risk for affective disorders (see Bifulco, Bernazzani, Moran & Ball, 2000 for full details). Forty-five percent responded and of these 40% met at least one of the following risk criteria: (i) negative interaction with partner or child; (ii) lack of close support, (iii) adverse childhood experience before age 17. Sixty percent of the women identified as 'at risk' agreed to be interviewed (18% unobtainable, 22% refused) and constituted the original series. Three years after the first interview, mothers with offspring aged 16-30 years were re-contacted and of these 70% agreed to re-interviewed and give permission for their child to be approached. Of the 187 identified offspring, 105 (56%) agreed to be interviewed (25% unobtainable despite repeated efforts at contact and 19% refused). There were no significant differences in mothers' rates of disorder, demographic or risk characteristics between those pairs who agreed to participate and those who did not.

In order to obtain a larger number of mother-offspring pairs, this screening process was repeated in 1995-1999 with the same General Practitioner registers within Islington, North London UK, and resulted in questionnaires being sent to 320 women not previously contacted. Forty-four percent responded with 32% meeting high-risk criteria. Of the suitable

mothers, 58% (41) agreed to be interviewed together with their offspring (22% unobtainable, 20% refused). There were no significant differences between the supplemental and original mother-offspring pairs in terms of demographic or risk characteristics and thus the two samples were combined.

In the final sample, mothers had a mean age of 45 years ($SD=5.1$, range 33–60) at re-interview, were predominantly White UK born (74%; 12% White born outside of UK, 14% Black or other ethnic minorities) and just under half were working class (48%). There were 78 daughters and 68 sons who had a mean age of 20 years ($SD=4.3$, range 16–30). The majority were still living in the parental home (66%), which is reasonably common for this age group within the UK, though 16% were cohabiting with a romantic partner and 19% had children of their own.

Measures

Mothers and offspring were interviewed separately with a battery of assessments and all sessions were tape recorded prior to selective transcribing and scoring (see Bifulco, Moran, Jacobs & Bunn, 2009 for a full description). Only the relevant measures are described here.

Offspring's reports of childhood experience—The Childhood Experience of Care and Abuse interview (CECA; Bifulco et al., 1994) was used to retrospectively assess sons' and daughters' adverse experiences prior to the age of 17. This measure was employed as it is designed to obtain detailed information on a broad range of adversities with a strong emphasis on concrete aspects of the events rather than respondents' subjective impressions. On the basis of an extensive audio-taped interview about factual aspects of childhood experience, ratings were made by the interviewer on 4-point scales of severity (1=marked, 2=moderate, 3=mild or 4=little/none though supervision and discipline scored 1=high, 2=moderate, 3=low, 4=variable), according to the criteria and threshold examples provided in the training manual. The following scales were utilised in the current analysis: *neglect* involved offspring's report of mother's and father's lack of interest in relation to material care, friendships, school work or career prospects; *antipathy* from mother (hostility, coldness, or rejection shown to the child); *core role reversal* (child is pressurised into taking over responsibilities or duties of a parent/adult); parental *supervision* (monitoring and restriction of child's movements); *discipline* by parents (rules and regulations imposed on the child); family *discord* (level of rowing, fighting and tension in the home); parental *psychological abuse* (humiliation, terrorization, exploitation and corruption of the child or intentional deprivation of needs or valued objects); parental *physical abuse* included violence towards the child based on the implement used, frequency and injuries sustained; and *sexual abuse* from any perpetrator based on degree of contact, relationship to child and frequency. Full details of the measure are provided in Bifulco and Moran (1998). CECA interviewers receive extensive training (see www.cecainterview.com) and ratings have been demonstrated to have satisfactory inter-rater reliability and convergent validity between siblings (Bifulco et al., 1994).

Mothers' report of parenting practices—Mothers were interviewed with a modified version of the CECA, with the questions rephrased to enquire about their treatment of their target offspring prior to the age of 17 years rather than their own childhood experiences. They were also asked to describe how the child's father treated the child prior to their 17th birthday. Ratings of each adversity domain were made in the same way as described above for the offspring interviews.

Analysis

Offspring's and mothers' overall ratings for each form of adversity (peak rating for mother and father/partner combined) were employed for this analysis and dichotomised according to guidelines published by Bifulco et al. (1994). Adversity emanating from mother alone was also examined. Namely, the neglect, antipathy, physical, psychological and sexual abuse, role reversal and family discord ratings were dichotomised into non-severe (ratings of 3 some or 4 little/none) and 1 (1 marked or 2 moderate) whilst supervision and discipline were recoded into average (2 moderate) and extreme (1 high or 3 lax or 4 variable). Sensitivity and specificity analyses were then conducted to determine the proportion of mother-offspring pairs whose responses were both rated as severe (sensitivity) or non-severe (specificity) for each form of adversity. The significance of this level of agreement between the two respondents and the degree to which this differed from what would be expected by chance was assessed using the kappa statistic. All analyses were conducted using SPSS version 15.0 for Windows.

Results

The proportion of maternal ratings that were in agreement with their offspring's ratings of presence (sensitivity) and absence (specificity) of a range of severe adverse events in childhood are provided in Table 1 along with kappas of the overall level of concordance.

There was fairly high specificity for most adverse experiences (except discord); such that the ratings for both mothers and their offspring tended to correspond when the adversity was absent. However, the low sensitivity for neglect, antipathy, role reversal, supervision, discipline, psychological, physical and sexual abuse indicates that mothers tended to under-report such experiences compared to their offspring. The exception is family discord where the mother and offspring ratings were in agreement about its presence for nearly three-quarters of cases but the low specificity suggests that mothers report this adversity as being present more often than their children. The kappas for each adverse experience, though often statistically significant, suggested that there was poor overall agreement between mother and offspring reports of childhood adversity in relation to the criteria outlined by Shrout (1998).

Given that ratings of non-severe adversity included sub-threshold adversity as well as no adversity, it is possible that mothers' reported similar rates of adversity as their offspring but minimised its severity. Examination of the discrepant cases (where offspring's rating was severe but mother's non-severe) revealed that mothers' responses were rated as 'some' (sub-threshold) in the majority of instances for family discord (8/11) but less than half the time for the other adversities (neglect: 5/12; antipathy: 3/7; role reversal: 3/11; psychological abuse: 1/11; physical abuse 12/25; and sexual abuse: 0/6). Therefore, ratings of less severe adversity for mothers appeared to account for most of the discrepancy between positive offspring and mother ratings of family discord but could not adequately explain the lack of sensitivity for the other forms of adversity.

When adverse experience emanating from the mother was examined similar levels of concordance resulted (data available on request). Findings were essentially unchanged when gender of offspring was controlled, and concordance levels were not improved by using indices combining adverse experiences.

Discussion

The findings of this study suggest that mothers tended to under-report adverse events that occurred during their son or daughter's childhood when compared to the reports of the offspring themselves. This applied whether the mother was reporting on her own behaviour

or that including her partner's behaviour. Minimising the severity of the adversity experienced by their offspring only partially accounted for this discrepancy. The exception was ratings for family discord, where mothers and their children agreed on its presence approximately three-quarters of the time and most of the discrepant instances occurred due to mothers reporting that the discord was less severe than their offspring reported. This greater agreement may have been because discord by its nature does not necessarily involve identification of a specific perpetrator and thus mothers may have felt more comfortable disclosing this form of adversity. However, mothers tended to report discord occurring in the family during the offspring's childhood even when the child themselves reported its absence. This brought down the overall level of agreement between them. This could have been because the discord was hidden from the child or occurred at an early age. For the other forms of adversity, there were reasonably high levels of agreement between the mothers and their offspring when the adverse experience was rated as absent based on the son or daughter's account. One potential explanation for this high level of specificity could be collusion between the mother and their offspring to deny that an event occurred. This might be more likely when the offspring is still living with the mother as was the case for majority of this sample. Without a third account of what occurred in the household it is difficult to tease out the potential presence of collusion and therefore this remains a possible explanation for the high level of agreement where abuse was reported as absent by both respondents.

Overall, these results provide preliminary evidence to suggest that mothers' accounts of their offspring's childhood adversity should be interpreted cautiously and considered to potentially underestimate the amount of abuse and neglect their child experienced. This mirrors the finding of Tajima et al. (2004) who found only modest agreement between parents and adolescent offspring in relation to reports of physical abuse. Consequently, mothers do not appear to be ideally placed to corroborate or provide substitute reports of their offspring's early adverse experiences. It would seem advisable for future studies to instead obtain corroboration or substitute reports from alternative informants such as older siblings or family members who lived with the target individual for the majority of their childhood. Clearly these accounts may still be prone to bias and thus where possible it would be preferable to utilise the information obtained from at least two such informants.

Furthermore, the findings of this study have implications for the validity of the CECA. The investigator-based standardised ratings of the presence and severity of maltreatment for this assessment tool are based upon concrete examples of behaviour obtained through in-depth probing. Whilst this greatly enhances its potential validity beyond the subjective perceptions of abuse obtained by self-report questionnaires (Brown & Rutter, 1966), clearly the ratings can only be made based upon the information provided by the respondent. The results of this study suggest that some mothers who maltreated their children, or were present in a household where this occurred, either intentionally or unintentionally did not disclose sufficient information to allow ratings of maltreatment to be made. This was particularly evident for neglect and psychological abuse which are often pervasive forms of maltreatment and thus the mothers may have been less aware of them than distinct incidences of physical or sexual abuse. Irrespective of the reasons for these discrepancies, it is clear that whilst the CECA remains a reliable and comprehensive tool to obtain personal accounts of childhood adversity, it is too affected by the selective reporting of some mothers to be utilised for obtaining proxy accounts from them of their offspring's childhoods.

Several methodological factors should be considered when interpreting the findings of this study. Firstly, this analysis is based on the assumption that the offspring's reports of adversity were accurate. Clearly, given the retrospective nature of this study it is not possible to guarantee this and indeed the validity of the offspring's accounts may have been

adversely affected by their mental state, intentional or subconscious denial of events, influence of subsequent experiences and normal processes of forgetting (Briere & Conte, 1993; Lysaker et al., 2005; Maughan & Rutter, 1997). However, even those with severe mental illness have been shown to consistently report adversity over long time periods (Fisher et al., 2009) and the use of medical or forensic records is likely to miss the majority of child maltreatment cases (Ammerman, 1998). Therefore, the interviewer-based manualised ratings utilised in the current study based on in-depth and example-focussed interviews should have minimised the potential for offspring to exaggerate or downplay their adverse childhood experiences. Nonetheless, independent corroboration of the offspring's reports would have been ideal in order to rule out the possibility that they were over-reporting their adverse childhood experiences, but unfortunately this was not available. The use of face-to-face interviews may actually have increased the likelihood that mothers would underreport abusive behaviour due to social desirability bias. This could potentially have inflated the difference between mother and offspring accounts and tentatively indicates that questionnaire measures may be more appropriate where proxy accounts from mothers (or fathers) are required.

Additionally, a previous analysis of the dataset used in the current study found that siblings in this sample were less likely to both experience the same form of maltreatment when compared to siblings from an earlier intergenerational study with lower risk mothers (Bifulco, Ilan-Clarke, Hannan & Schimmenti, 2008). This lack of concordance between siblings was related to the mother's depressive vulnerability status including her own experience of childhood neglect and abuse. This may provide some explanation for the poor mother-offspring concordances reported in the current analysis. For instance, inconsistency of parenting for different children in the family may have impeded mothers' accurate recall. Moreover, the same vulnerability factors influencing poor parenting may also adversely affect accuracy of recall and reporting. Therefore, it is possible that higher levels of corroboration could be achieved in a less selective series of mothers (i.e., those not at high risk for depression). Hence, these results require replication in larger, more representative samples and ideally within longitudinal studies that assess the offspring's reports and observe actual parent-offspring interactions over several time-points.

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Table 1

Level of agreement between ratings for mother and offspring reports of childhood adversity

Type of adversity	Sensitivity ^a % (n/N)	Specificity ^b % (n/N)	Kappa
Parental neglect	0 (0/12)	98.4 (127/129)	-.025
Maternal antipathy	36.4 (4/11)	91.0 (121/133)	.226 **
Core role reversal	21.4 (3/14)	95.3 (122/128)	.199 *
Parental supervision	17.1 (6/35)	86.8 (92/106)	.046
Parental discipline	45.5 (15/33)	80.2 (89/111)	.246 **
Family discord	74.4 (32/43)	47.7 (41/86)	.184 *
Parental psychological abuse	0 (0/11)	97.8 (132/135)	-.033
Parental physical abuse	30.6 (11/36)	82.7 (91/110)	.141
Sexual abuse	25.0 (2/8)	99.3 (137/138)	.344 ***

^aAdversity reported as present by mothers compared with positive offspring reports.^bAdversity absent in mothers' reports compared with negative offspring reports.*
 $p < .05$;**
 $p < .01$;***
 $p < .001$.