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Anxiety and negative self schemas mediate the association between childhood maltreatment and paranoia

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Abstract

This study examined affective and psychological routes from childhood maltreatment to increased paranoia in adulthood. Recent anxiety and negative beliefs about the self partially accounted for the associations between emotional or physical abuse and paranoia. However, as full mediation did not occur, other psychological, social and biological pathways require exploration.

Keywords

Trauma; Psychosis; Affective symptoms

1. Introduction

Sub-clinical psychotic-like experiences such as elevated levels of paranoia have been demonstrated to increase the risk for clinical psychotic disorders over time (Poulton et al., 2000). Research has consistently linked childhood maltreatment and psychosis-like symptoms in adulthood (Morgan and Fisher, 2007) but the mechanisms involved in this pathway are largely unknown. Garety et al. (2007) have advocated two potential routes from early adversity to paranoia: (i) through formation of negative beliefs about the self and others; and (ii) via increases in levels of depression or anxiety. Indeed, Gracie et al. (2007) demonstrated that negative perceptions of self and others partially mediated associations between lifetime trauma and paranoia, while Freeman and Fowler (2009) reported a role for anxiety. However, neither study investigated these pathways for adversity that specifically occurred in childhood which would provide more opportunities for preventative intervention and is less likely to be the product of reverse causality.

2. Method

2.1 Participants

A convenience sample of 212 individuals (average age 27 ± 8.4) from the general population was obtained through university adverts. Exclusion criteria were: ever diagnosed with psychosis or prescribed anti-psychotic medication. Most participants were female (65.4%), not White British (73.4%), and currently employed (36.0%) or studying (56.5%). Almost a quarter had a first degree relative with a psychiatric disorder (23.4%).

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2.2 Measures

Anonymised questionnaires were completed in private. The Childhood Trauma Questionnaire (Bernstein et al., 2003) retrospectively assessed severity of emotional (EA), physical (PA) and sexual abuse (SA), and emotional (EN) and physical neglect (PN) prior to 17 years of age. Each subscale score was dichotomised using published cut-points (Walker et al., 1999). Paranoia in the past year was considered present if participants answered 'yes' to either: "Have there been times when you felt that people were deliberately acting to harm you or your interests?" or "Have there been times when you felt a group of people was plotting to cause you serious harm or injury?" (Morgan et al., 2009) on the Psychosis Screening Questionnaire (Bebbington and Nayani, 1995). A total score of 14 or more on the revised Beck Depression Inventory (Beck et al., 1996) was utilised to determine current depression. Anxiety over the previous week was considered present if the total score on the Beck Anxiety Inventory (Beck and Steer, 1993) was more than 7. The Brief Core Schema Scales (Fowler et al., 2006) assessed negative schematic beliefs and median splits were used to dichotomise total scores for negative self (2 or more = present) and negative others (3 or more = present).

2.3 Analysis

Binary logistic regressions were conducted to explore associations between maltreatment types, mediators and paranoia. Odds ratios (OR) with 95% confidence intervals (CI) are reported. Separate mediational analysis was conducted for each maltreatment type that was significantly associated with paranoia using the binary_mediation command (http://www.ats.ucla.edu/stat/stata/faq/binary_mediation.htm) in Stata (v10.1). This provides the indirect effects from maltreatment to paranoia via each mediator and the proportion of the overall association that is accounted for by these pathways. The standardised logit coefficients were exponentiated to obtain ORs. Confidence intervals were estimated using bootstrapping with 500 replications. All analyses were adjusted for gender, age at interview (18-24 vs. 25-64 years), ethnicity (White British vs. Other ethnicity), and participant-reported psychiatric disorders in first-degree relatives (any present vs. none).

3. Results

The most prevalent form of childhood maltreatment was PN ($n=58$, 27.1%), followed by EA ($n=55$, 25.7%), PA ($n=45$, 21.0%) and EN ($n=40$, 18.7%) with fewer reports of SA ($n=24$, 11.2%) and a third of participants reported paranoia ($n=71$, 33.2%).

Elevated rates of paranoia were only apparent amongst those reporting EA (present = 50.9% vs. absent = 27.0%; $OR=3.26$, 95% CI 1.56-6.81) and PA (present = 55.6% vs. absent = 27.2%; $OR=3.15$, 95% CI 1.46-6.80). The potential mediators were also all significantly related to paranoia (anxiety: $OR=3.87$, 95% CI 1.92-7.78; depression: $OR=3.52$, 95% CI 1.69-7.34; negative self: $OR=3.19$, 95% CI 1.61-6.33; negative others: $OR=1.96$, 95% CI 1.02-3.78).

Table 1 presents mediational models for EA and PA with the total effects of these maltreatment types divided into 'indirect' effects via each of the mediators and the 'direct' effect (i.e. remaining effect that is not explained by the mediators). The mediating factors accounted for 45% of the association between EA and paranoia with anxiety and negative self schemas forming the strongest indirect pathways (though only the former reached statistical significance). Only 26% of the association between PA and paranoia was accounted for by the mediators and marginally stronger indirect pathways were observed via anxiety and negative self schemas (though both fell short of statistical significance).

4. Discussion

This study provides initial evidence for the role of anxiety and negative schematic beliefs about the self in the pathway between childhood maltreatment and adult paranoia. This is consistent with previous findings that anxiety (Freeman and Fowler, 2009) and negative schematic beliefs mediated associations between lifetime trauma and paranoia in general population samples (Gracie et al., 2007). However, the maltreatment-paranoia associations were not fully mediated in this sample suggesting that other psychological, as well as biological and social, factors could also be involved in these pathways (see Schäfer and Fisher, 2011 for a brief review).

The generalisability of these results is limited by use of a self-selecting non-clinical sample. The cross-sectional assessments also prevent firm conclusions about mediation from being drawn. Therefore, replication of these findings is required in prospective longitudinal studies of epidemiologically-derived samples, along with extension to other potential mechanisms and clinical disorder. Greater understanding of the pathways from childhood maltreatment to paranoia will enable suitable preventative interventions to be developed and targeted at those at highest risk.

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Table 1

Direct and indirect pathways between childhood maltreatment and adult paranoia via anxiety, depression and schematic beliefs.

Model	Adjusted ^a Odds Ratio	95% Confidence Interval
Emotional Abuse		
Total effect	1.32	1.09 – 1.59
Direct effect	1.16	0.96 – 1.40
Indirect total effect	1.13	1.04 – 1.27
Indirect via anxiety	1.05	1.00 – 1.13
Indirect via depression	1.01	0.93 – 1.11
Indirect via negative self schema	1.05	0.99 – 1.14
Indirect via negative other schema	1.02	0.97 – 1.11
Physical Abuse		
Total effect	1.29	1.07 – 1.55
Direct effect	1.21	1.00 – 1.44
Indirect total effect	1.07	0.98 – 1.19
Indirect via anxiety	1.02	0.97 – 1.10
Indirect via depression	1.01	0.97 – 1.06
Indirect via negative self schema	1.03	0.98 – 1.08
Indirect via negative other schema	1.01	0.98 – 1.05

^a Adjusted for gender, age at interview, ethnicity and family psychiatric history.