Fearful attachment mediates the association of childhood trauma with schizotypy and psychotic-like experiences

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Abstract:

We examined whether insecure attachment styles mediate the association between childhood trauma and nonclinical psychotic phenomena in 546 young adults. Fearful attachment mediated the associations of physical/emotional trauma with schizotypy, suspiciousness, and psychotic-like experiences. Results support theoretical accounts implicating attachment disruptions in the pathway from childhood adversity to psychosis.

Keywords: Childhood trauma | Attachment styles | Psychotic-like experiences

Article:

1. Introduction

Mounting evidence indicates that childhood adversity is associated with psychotic phenomena in clinical and nonclinical populations (see meta-analysis by Varese et al., 2012). Among the psychological mechanisms that have been suggested to underlie this association, insecure attachment styles have received increasing theoretical attention (e.g., Read and Gumley, 2008). Attachment styles initially develop within the context of the early relational environment and reflect habitual cognitive-affective representations ("internal working models") of the self and others and strategies for regulating distress (Mikulincer and Shaver, 2007). Bartholomew and Horowitz (1991) defined four (one secure and three insecure) adult attachment styles based on

different combinations of positive versus negative self and other representations: secure (positive self/positive others), preoccupied (negative self/positive others), dismissing (positive self/negative others), and fearful (negative self/negative others).

Previous work has demonstrated associations of insecure attachment with psychotic phenomena in clinical and nonclinical samples (for a review, see Korver-Nieberg et al., 2014). However, to our knowledge, only one empirical study has directly examined (and found) insecure attachment styles as mediators of links between childhood adversities and positive psychotic phenomena (Sitko et al., 2014). Whilst that study had the strength of a large sample size, the attachment measure used is based on a three-category model that does not distinguish between the dismissing and fearful styles, a distinction that has been consistently shown to be theoretically and empirically relevant (Bartholomew and Horowitz, 1991 and Mikulincer and Shaver, 2007). Furthermore, we are not aware of studies investigating whether insecure attachment mediates associations of trauma with the negative dimension.

Research suggests that the psychosis phenotype is expressed across a continuum of nonclinical and clinical manifestations (van Os et al., 2009). Focusing on the subclinical manifestations minimizes the confounding factors associated with clinical status and provides a "cleaner laboratory" for investigating etiological mechanisms (Kwapil and Barrantes-Vidal, 2012). The aim of the current study was to examine whether insecure attachment styles mediate the associations of childhood trauma with positive and negative schizotypy, suspiciousness, and psychotic-like experiences (PLEs) in a nonclinical sample of young adults.

2. Methods

2.1. Participants

Participants were 546 undergraduates from the Universitat Autònoma de Barcelona, who were recruited out of a candidate pool of approximately 750 participants (73%). The mean age was 20.6 years (S.D.=4.1) and 83.2% were female. The University Ethics Committee approved the study and participants provided informed consent.

2.2. Measures

Childhood trauma was assessed with the Childhood Trauma Questionnaire (CTQ; Bernstein and Fink, 1998), which measures emotional, physical, and sexual abuse and emotional and physical neglect during childhood and adolescence. Given that modest to high correlations (ranging from 0.21 to 0.56) were observed among the non-sexual trauma subscales, we performed a principal components analysis (PCA) to produce a single physical/emotional trauma factor. The PCA yielded one factor that explained 56% of the variance. The physical/emotional trauma factor and the sexual abuse subscale were used for analyses (note that they were only modestly correlated, r=0.18). Attachment style was measured with the Relationship Questionnaire

(RQ; Bartholomew and Horowitz, 1991), which yields continuous ratings of the four attachment styles.

PLEs were measured with the positive symptom subscale of the Community Assessment of Psychic Experiences (CAPE; Stefanis et al., 2002) and paranoid beliefs with the suspiciousness subscale of the Schizotypal Personality Questionnaire (SPQ; Raine, 1991). Schizotypy was assessed with the Wisconsin Schizotypy Scales (WSS), composed of the Perceptual Aberration (Chapman et al., 1978), Magical Ideation (Eckblad and Chapman, 1983), Physical Anhedonia (Chapman et al., 1976), and Revised Social Anhedonia (Eckblad et al., 1982) Scales. The WSS reliably produce two factors, positive and negative schizotypy, that account for 80% of their variance. Participants were assigned positive and negative schizotypy factor scores based upon norms from 6137 American young adults (Kwapil et al., 2008). Note that Kwapil et al. (2012) indicated that the factor structure underlying the WSS was invariant in Spanish and American samples.

3. Results

Pearson′s correlations indicated that physical/emotional trauma was significantly associated with PLEs (r=0.22, p<0.001), suspiciousness (r=0.27, p<0.001), positive schizotypy (r=0.22, p<0.001), and negative schizotypy (r=0.25, p<0.001). Following Cohen (1992), effect sizes were of a small magnitude. Sexual abuse was not associated with these outcomes (PLEs: r=0.07, suspiciousness: r=0.02, positive schizotypy: r=0.09, negative schizotypy: r = -0.02), so it was not examined in the mediation analyses.

Mediation was tested using Hayes (2013) method for assessing indirect pathways. Mediation of the association of trauma and the psychosis phenotype by attachment is demonstrated by significant indirect coefficients. Parallel multiple mediation analyses were performed using PROCESS (Hayes, 2013). Four models were tested (one for each of the nonclinical psychosis phenotype variables) with physical/emotional trauma as the independent variable and the three insecure attachment ratings entered simultaneously as mediators. Bias-corrected confidence intervals were generated using bootstrapping with 10,000 resamples. The total, direct, and indirect effects are shown in Table 1. The specific indirect effect of fearful attachment (with the other mediators entered) was significant in all models. Preoccupied and dismissing attachment were not significant mediators.

Table 1. Parallel multiple mediation analyses examining indirect effects of physical/emotional trauma on nonclinical psychotic phenomena via dismissing, preoccupied, and fearful attachment (N=546).

	Unstandardized parameter estimate	SE	95% bias-corrected confidence interval	
			Lower	Upper
Psychotic-like experiences				

Total effect	0.965*	0.181	0.609	1.320
Direct effect	0.822*	0.178	0.474	1.171
Indirect total effect	0.142*	0.066	0.030	0.293
Indirect effect via dismissing	0.002	0.016	−0.024	0.046
Indirect effect via preoccupied	0.077	0.051	−0.007	0.196
Indirect effect via fearful	0.063*	0.034	0.015	0.151
Suspiciousness				
Total effect	0.514*	0.078	0.361	0.666
Direct effect	0.420*	0.073	0.277	0.564
Indirect total effect	0.093*	0.035	0.030	0.167
Indirect effect via dismissing	−0.001	0.007	−0.019	0.011
Indirect effect via preoccupied	0.038	0.024	−0.002	0.093
Indirect effect via fearful	0.056*	0.023	0.019	0.110
Positive schizotypy				
Total effect	0.168*	0.032	0.106	0.230
Direct effect	0.140*	0.031	0.080	0.201
Indirect total effect	0.028*	0.012	0.008	0.054
Indirect effect via dismissing	0.003	0.003	−0.001	0.013
Indirect effect via preoccupied	0.015	0.010	−0.001	0.037
Indirect effect via fearful	0.010*	0.006	0.002	0.025
Negative schizotypy				
Total effect	0.216*	0.036	0.146	0.286
Direct effect	0.185*	0.035	0.117	0.254
Indirect total effect	0.031*	0.012	0.011	0.057
Indirect effect via dismissing	0.010	0.007	−0.001	0.028
Indirect effect via preoccupied	0.002	0.004	−0.003	0.013
Indirect effect via fearful	0.019*	0.009	0.006	0.040

Note: Results are based on 10,000 bias-corrected bootstrap samples. *$p<0.05$.

4. Discussion

The current study tested theoretical models that insecure attachment provides a pathway from childhood adversity to psychosis. Results indicated that physical/emotional trauma was

associated with positive and negative nonclinical psychotic phenomena and that fearful attachment significantly mediated these associations. This study did not replicate the association between sexual abuse and psychotic phenomena obtained in previous studies (Varese et al., 2012), which may be due in part to a low prevalence of sexual abuse in our sample (low, moderate, and severe sexual abuse were reported by 5.1%, 1.8% and 2% of the sample, respectively).

Fearfully attached individuals have been conceptualized as having a disorganized attachment system with negative internal working models of both self and others and opposing approach/avoidance tendencies (Fonagy and Luyten, 2012)[1]. By contrast, preoccupied and dismissing individuals, although insecure, have at least one positive working model and more consistent affect-regulation strategies (hyperactivation and deactivation, respectively). Although the cross-sectional nature of this study precludes conclusions about causality, it could be hypothesized that the disorganizing effect of adverse relational experiences on the attachment system is what carries most risk for developing psychotic phenomena.

It should be noted that although different forms of interpersonal childhood adversities tend to co-occur, and that physical and emotional abuse and neglect clustered together in our data, the dynamics and effects of each form of adversity may be different (Bifulco and Thomas, 2013) and future studies may consider separately assessing the effects of each trauma subtype. Another consideration is that there could be a slight overlap between insecure attachment and the paranoid feature of nonclinical positive psychotic-like variables, as both may involve a mistrust component. This, however, would not apply to positive schizotypy as measured by the WSS, given that it taps perceptual distortions and magical but not paranoid ideation.

Although the effect sizes in this study were relatively small, we think that they are noteworthy given that we found theoretically meaningful results using a nonclinical sample and with a one-item measure of attachment style. Given that the pathway to psychosis following childhood adversity is likely to involve multiple and multilevel factors, future studies should investigate the effects of insecure attachment in conjunction with other risk and protective factors that are likely to shape developmental trajectories towards the extended psychosis phenotype. In closing, our findings indicate that relational experiences play a role in psychosis proneness and further emphasize the relevance of assessing early-life trauma and attachment style when working with individuals with, or at risk for, psychosis.

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Appendix A. Supplementary materials

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