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Understanding the effect of attachment styles in paranoid ideation: The mediator role of experiential avoidance

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Abstract

Objectives: 1) to evaluate different attachment styles depending on the attachment figure; 2) to explore the association between experiential avoidance and paranoid ideation frequency; 3) to test a mediation model in which the impact of adult attachment on frequency of paranoid ideation occurs through experiential avoidance. **Method:** We assessed adult-attachment, experiential avoidance and paranoid ideation frequency in a sample of 37 (30 male and 7 female) outpatients and inpatients with a psychosis-spectrum diagnosis.

Results: The anxiety attachment pattern was significantly higher in all attachment figures. We found that attachment anxiety (mother) was associated with both experiential avoidance and paranoid ideation. An association between experiential avoidance and paranoid ideation frequency was also found. Results show that experiential avoidance mediated the relationship between attachment anxiety and paranoid ideation frequency. **Conclusion:** Our study highlights the importance of addressing therapeutically the mechanisms people with psychosis use to cope with the internal experience elicited by insecure attachment styles, specifically experiential avoidance, and suggests the adequacy of acceptance and mindfulness-based therapies in promoting recovery for psychotic patients.

Keywords: Attachment, Experiential avoidance, Paranoia, Psychosis.

1. Introduction

Psychosis is a broad domain that includes several diagnoses defined by abnormalities in one or more of the following five domains: delusions, hallucinations, disorganized thinking (speech), disorganized or abnormal motor behavior and negative symptoms (APA, 2013). Severe social deficits and interpersonal difficulties have long been associated with psychosis, with an emphasis on the link between social anxiety and paranoid beliefs (Michail & Birchwood, 2009).

Treatment of psychosis is mainly focused on symptoms stabilization through psychopharmacology. Nevertheless, there is an increasing interest in psychosocial approaches that promote coping with symptoms and reduction of the burden of disease (Klosterkötter, 2014), such as attachment informed (Gumley, Taylor, Schwannauer, & MacBeth, 2014) and contextual-behavioral interventions (Khoury, Lecomte, Gaudiano, & Paquin, 2013).

Bowlby's attachment theory model is mainly focused on parent- infant relationships (Bowlby, 1969). Nevertheless, research has stressed the important role of adult attachment and relationships with multiple attachment figures (Ross & Spinner, 2001). This results from advances, both theoretical (with the adoption of a dimensional approach to attachment rather than a categorical perspective) and in measurement (with the development of contextual and multidimensional measures) in the field of attachment theory, which have shown that attachment can be viewed and evaluated both as a dispositional variable and as a state-like variable that varies depending on the specific relational contexts it is oriented to (Fraley, Hudson, Heffernan, & Segal, 2015; Gillath, Karantzas, & Fraley, 2016).

Adult attachment can be conceptualized in a two-dimensional approach: affective-behavioral (anxiety versus avoidance) and cognitive (model of self versus model of others) (Hazan & Shaver, 1987). Brennan, Clark, and Shaver (1998) also conceptualized and empirically corroborated a structure of two dimensions in adult attachment: “attachment anxiety” (negative self-image, fear of rejection, worry about others availability, negative affect and in behavioral terms overly demanding interpersonal interactions) and “attachment avoidance” (negative image of others, uncomfortable with closeness, defense responses such as hostility, minimization of affect and social withdrawal). Although these dimensions have been considered independent from a theoretical and measurement viewpoint, recent studies have been questioning their orthogonality, showing that anxiety and avoidance attachment are frequently associated with each other (Cameron, Finnegan, & Morry, 2012).

Several studies have emphasized the high prevalence of insecure attachment patterns (e.g. attachment anxiety and attachment avoidance) in individuals with psychosis (Berry, Barrowclough, & Wearden, 2007a). Studies have found that attachment styles mediate the relationship between negative experiences in childhood and psychotic symptoms in adulthood (Sitko, Bentall, Shevlin, O'Sullivan, & Sellwood, 2014) and that attachment anxiety is positively correlated with psychotic symptoms (Berry, Barrowclough, & Wearden, 2008). In a systematic review of attachment in psychosis, Gumley, Taylor, Schwannauer, & MacBeth (2014) found associations between insecure attachment and psychotic symptoms, poorer engagement with mental health services and quality of life, interpersonal problems, and maladaptive coping. Korver-Nieberg, Berry, Meijer, and de Haan (2014) found that insecure attachment was associated with psychotic phenomenology and maladaptive coping styles in recovery processes. Regarding attachment specificity, research suggests that individuals with psychosis are capable

of developing distinctive attachment orientations depending on the attachment figure (Berry, Wearden, & Barrowclough, 2007b).

Attachment theory provides a comprehensive framework on how early interaction with significant figures may contribute to the development of basic systems (internal working models) and shape how we come to evaluate the self and others and how we regulate behavior, affect and interpersonal functioning (Bowlby, 1973, 1980). Recent studies suggest that the use of emotion regulation strategies is influenced by attachment styles, with insecure and disorganized attachment styles being associated with particular emotion regulation strategies (Pascuzzo, Moss & Cyr, 2015). In line with this, studies have demonstrated that strategies of experiential avoidance may be used to manage difficulties and relieve the distress resulting from attachment styles (e.g., Vanwoerden, Kalpakci, & Sharp, 2015; Mikulincer & Shaver, 2008).

Experiential avoidance (EA) is described as the unwillingness to have difficult inner experiences (e.g., thoughts, feelings, physical sensations) that lead to attempts to avoid, suppress, or modify those experiences, which in turn result in actions incongruent with valued life directions (Hayes et al., 2004). People with psychosis tend to use coping strategies based on EA rather than acceptance (Perry, Henry, & Grisham, 2011) and EA has been associated with paranoia even in non-clinical populations (Udachina et al., 2009; Udachina, Varese, Myin-Germeys, & Bentall, 2014). Goldstone, Farhall, and Ong (2011) found that EA mediates the relationship between life hassles and both delusions and delusional distress, in both clinical and non-clinical samples. Also, EA seems to be an important predictor of hallucinatory behavior (Varese, Udachina, Myin-Germeys, Oorschot, & Bentall, 2011) and distress caused by verbal auditory hallucinations (Varese et al., 2016) in clinical populations.

Several studies on acceptance-based interventions have been emerging with promising results. These interventions (mainly Acceptance and Commitment Therapy, ACT; Hayes, Strosahl, & Wilson, 1999) aim at developing an open, accepting and defused way of dealing with private experiences (such as psychotic symptoms, which are likely to induce suppression and/or avoidance), while fostering the present moment non-judgmental awareness and promoting values-based action (Gaudiano, 2015; Oliver, Joseph, Byrne, Johns, & Morris, 2013). Results have shown ACT interventions to decrease symptom believability (Bach & Hayes, 2002; Bach, Hayes, & Gallop, 2012), social interference, distress related to hallucinations as well as to improve affect (Gaudiano & Herbert, 2006; Gaudiano, Herbert, & Hayes, 2010). These studies found reduced rates of rehospitalization after the intervention, reduced depressive and negative symptoms, illness severity, (Gaudiano et al., 2015; Shawyer et al., 2012; White et al., 2011), and improvement of psychosocial functioning (Gaudiano et al., 2015), acceptance towards symptoms, and quality of life (Shawyer et al., 2012).

We considered several premises in order to define this study's aims: a) recent research proposes that attachment theory may be a useful framework in understanding both development and

recovery from psychosis (Gumley, Taylor, Schwannauer, & MacBeth, 2014; Sitko et al., 2014); b) several studies have stressed the importance of the person's unwillingness to experience aversive inner experiences and the consequent ineffective attempts to modify their topography (EA) in psychopathology (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996); c) EA has been considered as one of the roots of psychotic symptomatology such as delusions and delusional thinking under stress (Goldstone et al., 2011; Udachina et al., 2009). Thus, this study had three main objectives: 1) to understand the different patterns regarding attachment styles (attachment-avoidance and attachment-anxiety) when considering different attachment figures (mother, father, romantic partner and best friend); 2) to explore the association between experiential avoidance and paranoid ideation frequency; and 3) to test a mediation model in which the impact of adult attachment on frequency of paranoid ideation occurs through experiential avoidance.

2. Method

2.1. Study design

The present study followed an observational and cross-sectional design.

2.2. Participants and procedure

All procedures were previously approved by the ethics committee of the hospitals. Participants were recruited after referral of their assistant psychiatrists. The sample consists of 37 participants (30 male and 7 female) who were outpatients or inpatients at the Psychiatric Departments of two hospitals of the central region of Portugal. All of participants had been diagnosed with a psychotic disorder by their assistant psychiatrist, specifically schizophrenia (89.19%), schizoaffective disorder (8.11%) and psychosis not otherwise specified (2.70%). Participants' informed consent was obtained and confidentiality and anonymity were assured. Participants were then given a battery of self-report questionnaires. One researcher with clinical expertise was present during the assessment and helped the participants whenever needed.

2.3. Measures

2.3.1. Acceptance and Action Questionnaire II (AAQ-II, Bond et al., 2011)

AAQ-II is a 7-items self-report measure, scored in a 7-point Likert Scale (ranging from 1="never true" to 7="always true"), that reflects a single dimension of experiential avoidance. Total score values range from 7 to 49, with higher scores reflecting higher levels of experiential avoidance. The Portuguese version showed good psychometric properties (Pinto-Gouveia, Gregório, Dinis, & Xavier, 2012). In the present study, the Cronbach's alpha was .87.

2.3.2. *Experiences in close relationships – Relationship structure* (ECR-RS Fraley, Heffernan, Vicary, & Brumbaugh, 2011)

ECRS-RS is a measure comprised of 9 items, distributed by two subscales: anxiety (3 items) and avoidance (6 items), scored in a 7-point Likert Scale (ranging from 1=“Strongly Disagree” to 7=“Strongly Agree”). Each of these dimensions is evaluated for different close relationships (i.e. mother, father, romantic partner, best friend). There is a score for each figure within each attachment (varying between 1 and 7). Global scores for anxiety and avoidance attachment may be computed by averaging the scores for each figure. Higher scores denote greater attachment avoidance or anxiety. The Portuguese version showed adequate reliability and construct validity (Moreira, Martins, Gouveia, & Canavarro, 2015). In our study, Cronbach alphas for dimensions varied between .69 (avoidance attachment with partner) and .86 (attachment anxiety with best friend). Attachment anxiety and attachment avoidance global scores also presented good internal consistency ($\alpha=.85$ and $\alpha=.83$ respectively).

2.3.3. *Paranoia checklist* (PC, Freeman et al., 2005)

PC is a measure composed of 18 items that provides a multi-dimension assessment of paranoid ideation. Total score values vary between 18 and 90, with higher scores indicating greater levels of paranoia. Internal consistency was high in all dimensions in the original study (Freeman et al., 2005) as it did in the Portuguese validation study (Lopes, 2010). Since in this study we only used the “frequency” subscale the Cronbach's alpha was only performed for this subscale ($\alpha=.91$).

2.4. Statistical analyses

Data were analyzed in SPSS (v. 21, IBM Corp., 2012). Descriptive and inferential analyses were performed. In order to explore the differences between attachment avoidance and attachment anxiety in the different attachment figures, paired samples t-tests were performed. Due to the small sample size, results were then confirmed with the non-parametric alternative (Wilcoxon signed-rank test). Effect sizes were computed using the Cohen's d statistic. A Bonferroni adjustment was made in order to minimize Type I error due to multiple comparisons. Pearson's correlations were used to understand the associations between dependent, independent and mediator variables. The mediation model was tested through PROCESS using a bootstrap of 5000 resamples (Hayes, 2012).

3. Results

3.1. Descriptives

Participants' mean age was 37.14 (SD=7.27), ranging from 19 to 52. The majority of the participants was single (82.5%, n=32) and lived with their parents (62.2%, n=23). In terms of academic education, 27% (n=10) had 5–9 years of study, 35.1% (n=13) 10–12 years of education

and 37.8% (n=14) had a university degree (more than 12 years of education), and were mostly unemployed (45.9%, n=17). Most of the participants (91.8%, n=34) had at least one hospitalization and all of them were taking antipsychotic medication.

3.2. Mean differences

Results show that the anxiety attachment style was predominant in all attachment figures (Table 1).

Table 1
Paired samples *t*-tests and Cohen's *d*.

ECRS	Attachment Anxiety		Attachment Avoidance		<i>t</i>	<i>d</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Mother	3.75	1.72	3.39	1.19	-1.287	-.211
Father	3.86	1.80	3.45	1.23	-1.168	-.192
Partner	4.33	1.55	2.70	.92	-6.154***	-1.012
Best friend	4.26	1.60	2.73	1.10	-5.074***	-.834
Global	4.05	1.19	3.07	.72	-5.030***	-.827

Note: ECRS=Experiences in Close Relationships–Relationship Structure. *** $p < .001$.

3.3. Correlation analysis

Correlations between all measures under study are presented in Table 2. In terms of “attachment anxiety”, the only associations found were regarding “attachment anxiety” with respect to mother with experiential avoidance and paranoid ideation. In the “Attachment avoidance” group, none of the tested associations were significant. An association between experiential avoidance and paranoid ideation frequency was also found.

Table 2
Product moment correlations between all measures under study ($n=37$)

	PC frequency	AAQ-II
ECRS		
Avoidance with respect to mother	.10	.22
Avoidance with respect to father	-.14	-.19
Avoidance with respect to partner	.26	-.07
Avoidance with respect to best friend	.26	.30
Avoidance: global	.17	.15
Anxiety with respect to mother	.33 [~]	.41 [~]
Anxiety with respect to father	.16	.11
Anxiety with respect to partner	.01	-.17
Anxiety with respect to best friend	-.12	.19
Anxiety: global	.15	.20
AAQ-II	.48 [~]	—

Note: ECRS: Experiences in Close Relationships – Relationship Structure; AAQ-II: Acceptance and Action Questionnaire II; PC Frequency: “Frequency” subscale of the Paranoia Checklist. * $p < .050$. ** $p < .001$.

3.4. Mediation analysis

Since the only dependent variable with significant associations with both the independent variable and the mediator was “attachment anxiety with respect to mother”, this was the only mediation model computed. The total (c), direct (c') and indirect effects (ab) of attachment anxiety with respect to mother on frequency of paranoid ideation were estimated. The proposed mediator, experiential avoidance, was regressed on attachment anxiety with respect to mother to produce a, and frequency of paranoid ideation was regressed on both experiential avoidance and attachment anxiety with respect to mother to produce b and c' (Fig. 1). Experiential avoidance mediated the relationship between attachment anxiety and paranoid ideation frequency.

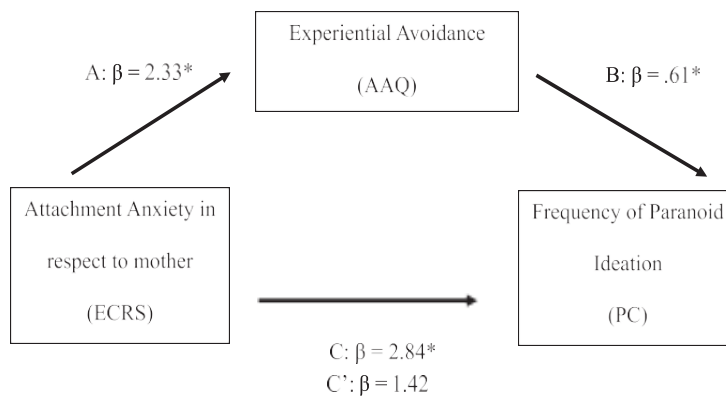


Fig. 1. Standardized regression coefficients for the relationship between attachment anxiety in respect to mother and frequency of paranoid ideation as mediated by experiential avoidance. $*p < .050$.

4. Discussion

This study intended to: 1) clarify the different patterns of insecure attachment of psychotic patients depending on the attachment figure; 2) contribute to the understanding of the association between experiential avoidance and paranoid ideation and 3) explore the impact of experiential avoidance as a mediator of the relationship between adult attachment styles and paranoid ideation. Our results showed that the anxiety attachment pattern is congruently higher in all attachment figures. These results do not go in line with previous studies highlighting the avoidant-attachment style as characteristic of schizophrenia-spectrum disorders (Dozier, 1990; Dozier, Lomax, Tyrrell, & Lee, 2001). Still, our study follows the results obtained by other studies that showed that anxiety attachment presented higher correlations with interpersonal problems (Berry et al., 2008) and with paranoia and hallucinations (Pickering, Simpson, & Bentall, 2008) than avoidance attachment. In our study, the attachment style did not vary across relationships as has been reported previously (Berry, Wearden, & Barrowclough, 2007b). Nevertheless, the methodology we used to test this assumption was different from previous studies and provides novel information.

Correlation studies showed significant associations between attachment anxiety (mother) and both experiential avoidance and paranoid ideation. These findings go in line with previous research supporting the relationship between higher attachment insecurity (anxiety and avoidance) and both psychiatric symptoms (psychotic and affective), and avoidant coping strategies (for a review see (Gumley, Taylor, Schwannauer, & MacBeth, 2014). Korver-Nieberg et al. (2013) argued that attachment anxiety contributes to the perception of threat in social situations (typically distressing situations for people with psychosis), which combined with a negative view of the self may lead to paranoid ideation. The non-significant results we found for other attachment figures could be potentially explained by the lack of social involvement patients with psychosis have with figures besides direct relatives (see Berry, Wearden, & Barrowclough, 2007b).

Experiential avoidance was moderately and positively correlated with paranoid ideation frequency. This result goes in line with previous research who found associations between higher levels of experiential avoidance and higher levels of paranoia in student populations (Udachina et al., 2009). Additionally, our results are in accordance with studies that showed that individuals from clinical samples with a tendency to suppress or avoid thoughts are significantly more likely to experience distressing psychotic symptoms in response to stressful life events (Goldstone et al., 2011).

Results from the mediation analysis showed that experiential avoidance operates as a mediator of the association between attachment anxiety with mother and paranoid ideation. We hypothesize that specific adult-attachment patterns, particularly attachment anxiety in relation to the mother, would elicit aversive internal experiences (such as negative affect, disturbing thoughts and memories). In the presence of such experiences, the person with psychosis would try to avoid, suppress and/or alter their topography through experiential avoidance strategies (e.g. distraction strategies, suppression). In turn, these strategies would paradoxically give rise, worsen or maintain the frequency of paranoid ideation. Therefore, this ineffective regulatory strategy would perpetuate a thought pattern based on suspiciousness and fear of harm/rejection by others, which in turn could reinforce the avoidance-based coping (social withdrawal) that characterizes psychosis. Studies have found that fearful-avoidant attachment patterns were associated with both affective symptoms (such as anxiety, guilt feeling, and depression) and psychotic symptoms (hallucinatory and delusion activity) (Ponizovsky, Vitenberg, Baumgarten-Katz, & Grinshpoon, 2013; Strand, Goulding, & Tidefors, 2015).

The main clinical implication to be drawn from this study is that experiential avoidance should be targeted when working with these patients. Our findings suggest the appropriateness of addressing how people with psychosis cope with the (potentially aversive) internal experience elicited by insecure attachment styles. Psychotherapy should help patients to relate to their internal experiences in a more accepting and non-judgmental way, promoting willingness and contact with the present moment. Our results lend some support to the use of acceptance and

mindfulness-based interventions in psychotic patients, which have been emerging with promising results (Khoury et al., 2013). Nevertheless, intervention studies with rigorous methodologies, such as Randomized Controlled Trials, are needed to confirm this assumption.

A number of limitations should be considered. The cross-sectional design, the sample size and the use of self-report measures (especially when assessing attachment styles), should be tackled in future studies aiming to replicate these findings. Further studies should also explore the mediation model with a fearful/disorganized attachment style (Bartholomew & Horowitz, 1991) as independent variable. Taking into consideration our results, it seems important to explore the effect that different attachment figures may have on the link between attachment styles and relevant processes and outcomes in psychosis. Further research should also examine the role of other variables, such as actual social rejection, trauma and stigma on clinical and social outcomes in psychosis.

In conclusion, our study suggests the importance of experiential avoidance as an ineffective emotion regulation strategy, with influence on the frequency of paranoid thoughts. The effect of insecure attachment in paranoid ideation seems to be operated through the attempts to suppress/alter the content of private events (e.g., thoughts, memories, emotions) elicited. These results can inform clinical practice and suggest the benefit of promoting willingness to experience aversive thoughts with openness and curiosity. Therefore, our study provides indications for the adequacy of mindfulness and acceptance-based therapies in promoting recovery for psychotic patients.

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