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The role of insecure attachment and psychological mechanisms in paranoid and depressive symptoms: An exploratory model

Almudena Trucharte [a,*], Carmen Valiente [a], Regina Espinosa [b], Covadonga Chaves [a]

[a] Personality, Evaluation and Clinical Psychology, Faculty of Psychology, Complutense University of Madrid, Madrid, Spain
[b] Department of Psychology, Faculty of Health, Camilo Jose Cela University, Madrid, Spain

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ABSTRACT

Attachment theory is considered an important theoretical framework for understanding the ontogenesis of psychopathology. In this regard, insecure attachment styles have been associated with the development and maintenance of paranoid and depressive symptoms. Furthermore, different psychological processes (i.e., self-esteem and experiential avoidance) have been identified as mediating mechanisms between the relationship of insecure attachment and these symptoms. Nowadays, there is a more positive view in psychology focusing on factors that contribute to well-being, although little is known about the role of these psychological well-being variables as mediators between insecure attachment and psychopathology. For thus, the aim of this study was to test one explorative structural equation model of insecure attachment on paranoid and depressive symptoms through psychological mediating mechanisms to elucidate the processes involved in each of them. To evaluate the model, 141 individuals with severe psychiatric conditions participated in the study. The results revealed good model fit, highlighting that avoidant attachment has a direct and indirect effect on the symptoms, while anxious attachment has only an indirect effect through mediating mechanisms. On the other hand, lower levels of self-acceptance and environmental mastery have been identified as important processes associated with paranoid and depressive symptoms. However, less positive relationships were a significant mediating mechanism only for paranoid ideation symptoms. These results have important clinical implications by shedding light on the relationship between insecure attachment, paranoid and depressive symptoms, and the psychological mediating mechanisms involved in this relationship, which may be considered key variables in clinical treatments.

1. Introduction

Over the past 60 years, attachment theory has been considered an important theoretical framework for understanding the development of psychopathology (Fearon et al., 2016). Attachment is defined as a type of affectional bond, which the individual forms with a specific person, whom he or she approaches in times of distress (Bowlby, 1973). While attachment styles have been classified as secure and insecure, over the years different classifications of insecure attachment have emerged (Gumley et al., 2014). For example, a distinction has been made between an *anxious style*, characterized by a negative self-image, fear of rejection by others, and increased negative affect, and an *avoidant style*, characterized by a negative image of others, discomfort with the closeness of others, and minimization of affect (Shaver and Mikulincer, 2009). This classification illustrates that the cognitive representation of the self and expectations of how others behave in social relationships (i.e., internal working models) are key processes in interpersonal interactions (Bowlby, 1973) and are crucial for understanding the development of psychopathology (Kobak and Bosmans, 2019). For instance, insecure attachment styles have been associated with depression (e.g., Malik et al., 2015; Morley and Moran, 2011), as can also be found in almost 80% of individuals with psychosis (Carr et al., 2018). Specifically, recent systematic and meta-analytic studies have found that paranoia is related to both anxious and avoidant attachment in clinical and general populations, highlighting the contribution of insecure attachment to the development and maintenance of paranoia (Lavin et al., 2020; Murphy et al., 2020).

In this sense, robust psychological models have addressed the importance of negative beliefs about oneself and others in the onset and maintenance of paranoid thinking (Bentall et al., 2001; Freeman et al., 2002; Freeman, 2007), establishing a link between these negative beliefs and the internal working models of attachment (Bentall and Sitko,

* Corresponding author.
E-mail address: almutruc@ucm.es (A. Trucharte).

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2020). Similarly, these negative beliefs have also been found to be significant in depression (Dozois and Beck, 2008). Interestingly, several authors have reported strong correlations and comorbidities between depressive symptoms and paranoia (e.g., Freeman et al., 2012; Saarinen et al., 2018). Indeed, paranoia was traditionally considered to be a form of camouflaged depression (Zigler and Glick, 1988).

On the other hand, a wide range of cognitive and emotional processes have been considered as potential mediating mechanisms between attachment styles and mental disorders (Fearon et al., 2016). Firstly, different studies have found that low levels of self-esteem or a negative self-image mediated the relationship between insecure attachment and paranoid ideation (e.g., Martinez et al., 2020; Ringer et al., 2014; Wickham et al., 2015), as well as between insecure attachment and depressive symptoms (e.g., Hankin et al., 2005; Lee and Hankin, 2009). Secondly, experiential avoidance (EA), as the intolerance to negative inner experiences (Hayes et al., 2004), has also been considered as an important transdiagnostic mediating mechanism, associated with the development of psychopathology (e.g., Chawla and Ostafin, 2007; Fledderus et al., 2010). For instance, a study using an experience sampling method found that feelings of low self-worth and EA contributed directly and indirectly to paranoid thinking (Udachina et al., 2014). In addition, there are associations between EA and depression (Shahar and Herr, 2011; Spinhoven et al., 2014). However, to our knowledge, the relationship between attachment, EA and depressive symptoms has not yet been studied.

In recent years, a more positive psychiatry that focuses on the well-being of the individual has been advocated (Fava and Tomba, 2009; Jeste et al., 2017). The most compelling reason for this is that by working on the various factors associated with psychological well-being, the recovery process is facilitated (Slade et al., 2012). Psychological well-being refers to the resources involved in searching for meaning in life, personal growth, and the realization of the individual's full potential (Ryff, 1989). The model of Psychological Well-being (Ryff, 1989) determines six factors which contribute to an individual's psychological well-being: self-acceptance, positive relationships, purpose in life, personal growth, autonomy and environmental mastery. The protective role of psychological well-being in some disorders has been widely shown. The promotion of meaning, purpose in life, and positive relationships have been considered key processes associated with recovery in schizophrenia and depression disorders (i.e., Goodman et al., 2018). On the other hand, low levels of some dimensions of psychological well-being have been related to some psychopathological disorders. For instance, the lack of environmental mastery was one of the most severe deficits in people with depressive symptoms (i.e., Nierenberg et al., 2010) and low levels of psychological well-being have been strongly related to anxious and avoidant attachment (Homan, 2016; Marrero-Quevedo et al., 2019). However, to our knowledge, there is almost no research focused on the mediating role of psychological well-being levels between attachment and psychopathology, even though such studies could be used to find mechanisms to promote recovery.

Therefore, the main aim of this study was to explore, using structural equation modelling, the effect of insecure attachment (i.e., anxious and avoidant attachment), the six dimensions of psychological well-being and EA on paranoid and depressive symptoms. For that, an explorative model (Fig. 1) was proposed to identify differential explanatory mechanisms for both symptoms. Despite the exploratory nature of the study, based on the previous literature reviewed, it was hypothesized that both insecure attachment styles would predict paranoid and depressive symptoms. Secondly, it was hypothesized that lack of psychological well-being and high levels of EA would act as mediating pathways between insecure attachment and symptomatology.

2. Methods

The present study has a cross-sectional design. Ethical approval of the study was obtained from the Deontological Commission of the Faculty of Psychology at the University. The research was conducted in compliance with the Declaration of Helsinki.

2.1. Participants

All participants were currently receiving outpatient psychosocial

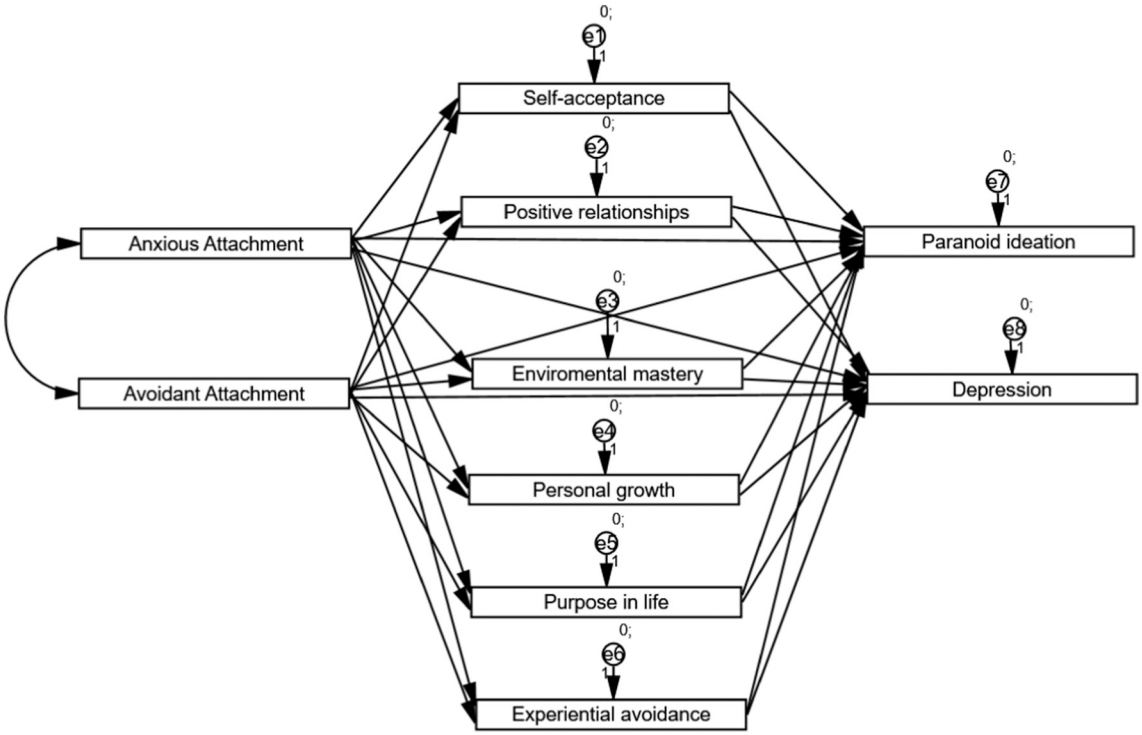

Fig. 1. Hypothesized model.

services at four Non-Profit Human Organizations (NPO) within the National Health System Network that provide comprehensive care for people with severe psychiatric conditions (SPC). A total of 142 participants were assessed for eligibility and consented to take part in the study, excluding 1 participant that did not complete the intake assessment (80 male and 61 female). Participants aged 18 or older, volunteered to participate in the study after signing a consent form. Potential participants were excluded if they had limited cognitive resources or serious formal thinking disorders. According to DSM-5 criteria (APA, 2013), almost 80% of the sample had a diagnosis of Schizophrenia or Affective disorder. Sociodemographic characteristics of the sample are depicted in Table 1.

2.2. Measures

The assessments were carried out by self-report measures and completed with the help of a trained research assistant.

Sociodemographic characteristics. Participants provided information about their age, gender, civil status, educational level, current economic activity, and their history of mental health difficulties.

The Relationship Questionnaire (RQ; Bartholomew and Horowitz, 1991). Participants read four vignettes describing four attachment styles: secure, fearful, preoccupied, and dismissing. Then they had to rate on 7-point scales how each description corresponds to their general relationship style. A dimensional measure of anxious and avoidant attachment can be estimated from scores in each of the four styles (Yárnoz-Yaben and Comino, 2011). The score in the anxious attachment was calculated by subtracting the sum of secure and dismissing scores from the sum of preoccupied and fearful scores. While avoidant attachment was calculated by subtracting the sum of secure and preoccupied scores from the sum of dismissing and fearful scores. The formula can be summarized as follows: anxious attachment = (preoccupied + fearful) − (secure + dismissing); avoidant attachment = (dismissing + fearful) − (secure + pre-occupied).

Table 1
Demographic and clinical characteristics of group participants.

	Participants (N = 141)
Age in years, mean (SD)	42.9 (9.19)
Sex: men, n (%)	80 (56.7)
Single status, n (%)	113 (80.1)
Education, n (%)	
Elementary school	35 (24.8)
Secondary school	66 (46.8)
College education	37 (26.2)
Employed, n (%)	
Unemployed	125 (88.7)
Part-time employment	12 (8.5)
Full-time employment	1 (0.7)
Diagnosis, n (%)	
Schizophrenia	92 (65.2)
Affective disorders	17 (12.1)
Anxiety disorders	8 (5.7)
Personality disorders	10 (7.1)
Others	5 (3.5)
Medication, n (%)	
Benzodiazepines	86 (61)
Hypnotics (no benzo)	8 (5.7)
Antipsychotics	115 (81.6)
Anti-depressants	48 (34)
Stabilizers mood	33 (23.4)
First symptom, n (%)	
Childhood	1 (0.7)
Adolescence	29 (20.6)
Adulthood	78 (55.3)
Therapy frequency, n (%)	
No therapy	6 (4.2)
1 h per week	50 (35.5)
1 h each 2 weeks	39 (27.7)
1 h per month	27 (19.1)
Less	13 (9.2)

Acceptance and Action-II Questionnaire (AAQ-II; Bond et al., 2011) is a 10-item questionnaire that assesses the level of tolerance to distressing mental events such as bodily sensations, thoughts or emotions. Each element is ranked on a 7-point Likert scale. A total score is obtained by adding the scores of the items. High scores indicate greater experiential avoidance and psychological inflexibility. In our study the internal consistency for this subscale was acceptable ($\alpha = 0.78$).

Scales of Psychological Well-Being (SPWB; Ryff and Keyes, 1995) is a 54-item questionnaire that has 6 sub-dimensions on a 6-point Likert scale. These sub-dimensions are self-acceptance (to have a realistic perception and accept both good and bad qualities of the self, e.g., "*I like most aspects of my personality*"), positive relationships with others (to be able to form and develop intimate, warm and caring relationships with others, e.g., "*I know that I can trust my friends, and they know they can trust me*"), environmental mastery (the ability to manage the environment with one's needs and values, e.g., "*In general, I feel I am in charge of the situation in which I live*"), personal growth (working toward optimising one's potential, e.g., "*For me, life has been a continuous process of learning, changing, and growth*"), purpose in life (having goals in life and a sense that one's life has purpose and meaning, e.g., "*I have a sense of direction and purpose in life*") and autonomy (the ability to make one's own decisions without the approval of others, e.g., "*I have confidence in my opinions, even if they are contrary to the general consensus*"). The mean score of each subscale was obtained. Due to the initial low internal consistency found for the autonomy subscale and given that low reliability diminishes the chance of significant findings (Hunter and Schmidt, 1990), items that lowered the final Cronbach's α for this subscale were eliminated. The final internal consistency after dropping items that lower the Cronbach's α in the autonomy subscale were (α = 0.66). For the rest of the subscales, all items were maintained with acceptable internal reliability (respectively, $\alpha = 0.78$; $\alpha = 0.78$; $\alpha = 0.76$, $\alpha = 0.73$, $\alpha = 0.74$).

The Revised Inventory of Symptoms of Derogatis (SCL-90-R; Derogatis, 1974) is a 90-item questionnaire that is used to assess the degree of current psychological distress on a 5-point Likert scale. The items that make up these subscales represent the main clinical manifestations of these disorders. For the purpose of this study, we have used the paranoid ideation subscale and the depression subscale. The internal consistency for those subscales was acceptable ($\alpha = 0.76$) and excellent ($\alpha = 0.91$), respectively.

2.3. Data analysis

Firstly, descriptive analysis was conducted to analyse sociodemographic and psychological variables included in the model using the SPSS v.22 (IBM Corp, 2013).

Secondly, a plausible structural model was hypothesized and tested including the nine selected variables that theoretically have a significant relationship with the two symptoms: two relating to insecure attachment (i.e., anxious and avoidant attachment), six dimensions of psychological well-being (i.e., Self-acceptance, Positive relationships, Purpose in life, Personal growth, Autonomy and Environmental mastery), and EA. The hypothesized structural equation model was tested using AMOS SPSS v.23 (Arbuckle, 2014). Before conducting the analysis, multicollinearity between independent variables and mediators was checked. The Mardia's coefficient (Mardia, 1970) was used for assessing multivariate normality, using the suggested score of less than 70 to assume normality (Ayán and Díaz, 2008). To test the fit of the hypothesized model, the Maximum Likelihood Estimation Method was employed using the following fit indices and criteria (Hu and Bentler, 1999; Yu, 2002): (a) χ^2/df: an acceptable fit is indicated by values ≥ 5, and a good fit is indicated by values ≥ 2; (b) Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI): an acceptable fit is indicated by values ≥ 0.90, and a good fit is indicated by values ≥ 0.95; (c) Root Mean Square Error of Approximation (RMSEA): an acceptable fit is indicated by

values ≤ 0.08 (90% CI ≤ 0.10), and a good fit is indicated by values ≤ 0.05 (90% CI ≤ 0.08); (d) Standardized Root Mean Square Residual (SRMR): an acceptable fit is indicated by values ≤ 0.08 and a good fit is indicated by values ≤ 0.05. The model was re-specified considering the values in the path coefficients and the values of the modification indices. In order to analyse the indirect effects, a bias-corrected bootstrap estimation (2000 bootstrap samples with 95% confidence interval) was performed. When zero is not included in the confidence interval, mediation is supported (MacKinnon et al., 2004).

3. Results

3.1. Descriptive analysis of variables included in the model

A descriptive analysis of the variables selected in the model is shown in Table 2. The results showed that participants had high levels of paranoid ideation and depressive symptomatology, with scores higher than the means found in psychiatric patients as measured by the SCL-90-R (Schmitz et al., 2000). In addition, participants had similar scores on all six dimensions of psychological well-being and EA as other populations with SPC (Barajas et al., 2017; Caballero et al., 2021). Finally, correlations between all measures under study are presented in Table 3. This correlation analysis showed that the variable autonomy was not related to the insecure attachments and both symptoms, so it was excluded from the hypothesized model.

3.2. Measurement model

Before conducting the model analysis, multicollinearity of independent variables and mediational mechanism were checked. The results showed that tolerance levels were greater than 0.10 and variance inflation factors were less than 10. Therefore, multicollinearity between variables was not found.

Firstly, the hypothesized model was evaluated (see Fig. 1). This model presented a Mardia's coefficient of 16.05, well under the critical value of 70 recommended to use the Maximum Likelihood Estimation Method. The following fit indices were obtained: 1) $\chi^2/df = 22.03$; 2) CFI = 0.47; 3) TLI = −0.46; 4) RMSEA = 0.38 (IC = 0.35 to 0.42), 5) SRMR = 0.21. To adjust the model, it was re-specified eliminating paths with a non-significant *p*-value: Avoidant attachment → Experiential avoidance ($\beta = 0.07$), Anxious Attachment → Paranoid ideation ($\beta = 0.11$), Self-acceptance → Paranoid ideation ($\beta = 0.12$), Personal growth → Paranoid ideation ($\beta = 0.10$), Purpose in life → Paranoid ideation ($\beta = 0.05$), Positive relationships → Depression ($\beta = -0.05$), Anxious Attachment → Depression ($\beta = 0.11$), and Self-acceptance → Depression ($\beta = -0.02$), Positive relationships → Experiential avoidance ($\beta = 0.06$), Environmental mastery → Experiential avoidance ($\beta = -0.17$), Personal growth → Experiential avoidance ($\beta = 0.02$), Purpose in life → Experiential avoidance ($\beta = -0.12$), Environmental mastery → Paranoid ideation ($\beta = -0.14$); Purpose in life → Depression ($\beta = -0.16$), and Personal growth → Depression ($\beta = 0.15$). Following the recommendations of the modification indices, three new significant paths were added (environmental mastery → Experiential avoidance, self-acceptance → Experiential avoidance). Moreover, modification indices indicated that the error measurements of the SPWB subscales should be covaried. These indices also suggested that error measurements of paranoid and depression symptoms should be covaried too. The final model (see Fig. 2) showed the following goodness-of-fit indices: 1) $\chi^2/df = 1.23$; 2) CFI = 0.99; 3) TLI = 0.98; 4) RMSEA = 0.04 (IC = 0.00 to 0.11), 5) SRMR = 0.03. To analyse whether the indirect effects were significant, a bias-corrected bootstrap estimation was performed. Results showed that all the indirect effects were significant (see Table 4).

Table 2
Ranges, means and standard deviations of study variables (N = 141).

Variable	Min	Max	*M*	*SD*
Anxious attachment (RQ)	−12	12	0.11	4.08
Avoidant attachment (RQ)	−12	12	−0.23	3.52
Self-acceptance (SPWB)	1	6	3.47	0.92
Positive relationship (SPWB)	1	6	3.83	0.85
Environmental mastery (SPWB)	1	6	3.50	0.82
Autonomy (SPWB)	1	6	4.00	0.89
Personal growth (SPWB)	1	6	4.01	0.80
Purpose in life (SPWB)	1	6	3.85	0.86
Experiential avoidance (AAQ-II)	10	70	42.20	10.85
Paranoid ideation (SCL-90-R)	0	4	1.48	0.91
Depression (SCL-90-R)	0	4	1.23	0.87

Note. AAQ-II = Acceptance and Action Questionnaire-II; SPWB = Scales of Psychological Well-Being; SCL-90-R = Symptom Checklist 90-Revised.

4. Discussion

The aim of this study was to ascertain the extent to which insecure attachment can explain paranoid and depressive symptoms through psychological mediating mechanisms using structural equation modelling. In relation to insecure attachment, the results are in line with previous evidence showing that attachment styles lead to paranoia (Bucci et al., 2017; Korver-Nieberg et al., 2015) and depressive symptoms (Marganska et al., 2013; Wei et al., 2004). However, our results suggest that while avoidant attachment had a direct and an indirect effect on symptoms, anxious attachment had only an indirect effect and so, it only affects psychopathology through psychological mediating mechanisms. Previous studies have also found how anxious attachment led to paranoia and depression through mediating mechanisms, specifically through emotion regulation strategies and EA (e.g., Ascone et al., 2020; Castilho et al., 2017; Wei et al., 2006). Traditionally, both types of insecure attachment represent a failure to seek proximity to others in order to reduce distress and thus the use of maladaptive coping (Mikulincer et al., 2003). In this sense, our model reflected how insecure attachment styles were negatively associated with some dimensions of psychological well-being which can be considered, to some extent, as adaptive mechanisms to manage distress in favor of the recovery process.

Regarding the dimensions of psychological well-being, it is important to note how the activation of insecure attachment-related thoughts (i.e., schematic representation of the self as unlovable and others as untrustworthy) is associated with lower levels of self-acceptance. Previous studies have also found that both types of attachment were negatively related to self-acceptance (Homan, 2016; Marrero-Quevedo et al., 2019). Nevertheless, there is more previous evidence on the associations between insecure attachment styles and negative self-esteem (e.g., Lee and Hankin, 2009; Martinez et al., 2020; Wickham et al., 2015). Our results indicate the need to build a positive model of themselves in people not only with anxious attachment but also with avoidant attachment, given that failures and difficulties in social contexts may also have an impact on the attitudes toward the self in people with avoidant attachment (Marrero-Quevedo et al., 2019). On the other hand, it is noteworthy that the absence of positive relationships was a mediating mechanism only for paranoid ideation symptoms. In line with our results, Berry et al. (2008) found that insecure attachment was associated with interpersonal difficulties, specifically anxious style with overly demanding behavior and avoidant with interpersonal hostility. In addition, like previous studies, we found a direct relationship between avoidant attachment and less positive relationships, and how these few close and trusting relationships lead to paranoia (Marrero-Quevedo et al., 2019; Martinez et al., 2020). In this sense, our results point to the key role of social connections to reduce the levels of paranoid ideation, that is, the ability to form and maintain intimate, close and caring relationships with others. Indeed, other authors have considered the promotion of social relationships as a key mechanism and a way to improve well-being and promote recovery in patients with paranoia (Goodman et al., 2018; Greenaway et al., 2015). Finally, environmental mastery was a shared mediating mechanism between the two outcomes

Table 3
Correlation values (r) between insecure attachment, mediational variables and symptoms.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Anxious Attachment (RQ)	–										
(2) Avoidant Attachment (RQ)	0.01	–									
(3) Self-acceptance (SPWB)	−0.39*	−0.24*	–								
(4) Positive relationships (SPWB)	−0.34*	−0.30*	0.61*	–							
(5) Environmental mastery (SPWB)	−0.48*	−0.23*	0.71*	0.57*	–						
(6) Autonomy (SPWB)	−0.09	0.04	0.26*	0.06	0.26*	–					
(7) Personal growth (SPWB)	−0.27*	−0.27*	0.50*	0.54*	0.51*	0.10	–				
(8) Purpose in life (SPWB)	−0.31*	−0.22*	−54*	0.55*	0.60*	0.12	0.69*	–			
(9) Experiential Avoidance (AAQ-II)	0.41*	0.07	−0.58*	−0.38*	−0.55*	−0.13	−0.35*	−0.43*	–		
(10) Paranoid Ideation (SCL-90-R)	0.32*	0.29*	−0.35*	−0.41*	−0.43*	0.09	−0.22*	−0.27*	0.42*	–	
(11) Depression (SCL-90-R)	0.41*	0.29*	−0.53*	−0.44*	−0.61*	−0.14	−0.31*	−0.46*	0.59*	0.70*	–

Note. AAQ-II = Acceptance and Action Questionnaire-II; SPWB = Scales of Psychological Well-Being; SCL-90-R = Symptom Checklist 90-Revised.
* $p < 0.01$.

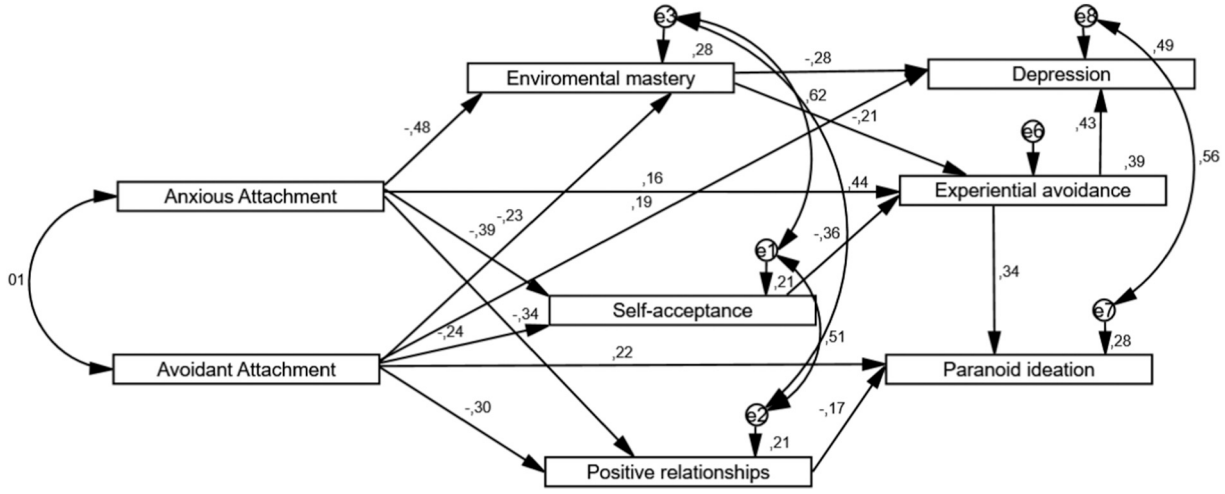

Fig. 2. Final model.
Note. The values shown above are the standardized regression coefficients for each path of the model.

Table 4
Model re-specified.

Variables	Indirect effect	CI (95%)	Standard error	*p* value
Avoidant attachment → experiential avoidance	0.135	0.053 to 0.219	0.042	0.001
Avoidant attachment → depression	0.123	0.047 to 0.197	0.038	0.001
Avoidant attachment → paranoid Ideation	0.098	0.042 to 0.161	0.031	0.001
Anxious attachment → experiential avoidance	0.240	0.146 to 0.342	0.049	0.001
Anxious attachment → depression	0.310	0.204 to 0.413	0.054	0.001
Anxious attachment → paranoid Ideation	0.196	0.108 to 0.289	0.047	0.001
Environmental mastery → depression	−0.091	−0.180 to −0.006	0.044	0.031
Environmental mastery → paranoid ideation	−0.071	−0.156 to −0.004	0.038	0.032
Self-acceptance → depression	−0.158	−0.257 to −0.074	0.046	0.001
Self-acceptance → paranoid ideation	−0.124	−0.205 to −0.055	0.039	0.001

Note. CI = 95% confidence interval for the estimates (lower and upper limit).

but was only directly related to depression. It seems that the perception of not being able to manage your surroundings and the lack of a sense of control over the outside world are directly and indirectly related to both paranoid and depressive symptoms. Previous studies have shown how both insecure attachment styles were associated with lower environmental mastery (Homan, 2016) and how patients with depressive and paranoid symptoms have lower levels of environmental mastery (Edmondson and MacLeod, 2015; Valiente et al., 2014). These results point to the importance of empowering patients and creating a greater sense of control over their environment by providing them with competence-building activities (Bélanger et al., 2019; Fitzsimons and Fuller, 2002).

The remaining dimensions of psychological well-being (i.e., Autonomy, Purpose in life and Personal growth), were not maintained in the final model. This could be due to the fact that these subscales reflect aspects more related with self-fulfilment or one's goals, which may have fewer associations with insecure attachment patterns to explain psychopathology. In fact, individual differences in attachment styles have traditionally been associated with variables such as interpersonal interactions, self-esteem, coping with stress, etc. (Shaver and Mikulincer, 2009). Furthermore, our explorative model is in concordance with relevant theoretical models. On the one hand, paranoia models emphasize how individuals with paranoid thinking try to avoid negative views about themselves as a way of regulation to preserve their positive

self-presentation (Bentall et al., 2001; Murphy et al., 2018), as well as underline the importance of others and the perception of their intentions (Freeman et al., 2005). On the other hand, depression models, specifically learned helplessness theory (Maier and Seligman, 1976), emphasize the fact that the individual develops the belief that he or she is not able to cope with adverse contexts (Abramson et al., 1978; Seligman, 1972).

In regard to EA, our model stressed the importance of this variable as a mediating mechanism between anxious attachment, dimensions of psychological well-being, and symptomatology. In that way, EA fully mediated the relationship of anxious attachment with paranoid ideation and depressive symptoms. Whereas individuals with avoidant attachment tend to use avoidance strategies to reduce their distress and that form of regulation is directly associated with symptomatology (Mikulincer and Shaver, 2008). People with anxious attachment tend to dysregulate their affect by intensifying their distress expression (Mikulincer and Shaver, 2008). This form of regulation seems to be associated with an increase in negative self-beliefs and low environmental control, which are related with attempts to avoid, reject or not accept these negative thoughts and feelings. Paradoxically, these attempts at suppression of negative mental images have been found to increase symptomatology (Boulanger et al., 2010). Likewise, previous studies have also highlighted the role of EA as a mediating mechanism between insecure attachment and psychopathology (e.g., Castilho et al., 2017; Udachina et al., 2014), promoting the idea of the importance of targeting this transdiagnostic mechanism in the therapeutic and recovery process (Boulanger et al., 2010).

Finally, it is worth mentioning that symptoms of paranoia and depression are often coexisting phenomena (Saarinen et al., 2018), especially among people with SPC in rehabilitation centres (Fond et al., 2018). Therefore, given the difficulty of finding patients without comorbidities between the two symptoms, future research should focus on samples with paranoia or depression, to explore and find the specific psychological mechanisms involved in each symptom.

4.1. Strengths and limitations

This study has some strengths and some limitations. Regarding the strengths, this study explored both types of insecure attachment in relation to paranoid ideation and depressive symptoms through structural equation models in a clinical sample with SPC. Moreover, we used a self-acceptance measure which is a better predictor of mental health rather than self-esteem (Popov et al., 2015). Finally, this study explored the same psychological processes associated with psychological well-being in paranoid and depressive symptoms establishing different pathways. In regard to the limitations of the study, it was cross-sectional which limits our ability to infer causality. It is also exclusively based on self-reported information, which may lead to common method biased (Podsakoff et al., 2003). In this sense, the RQ questionnaire like others attachment self-report measures has the disadvantages of overlapping semantic content between items of psychosis measures (e.g., feeling suspicious of others) and measures of attachment (e.g., feeling insecure in relationships) (Gumley et al., 2014). In addition, each attachment measure reflects a different approach to the conceptual and theoretical understanding of attachment (Gumley et al., 2014).

5. Summary

In sum, the current study aimed to shed light on the relationship between insecure attachment styles and psychopathology, as well as on the dimensions of psychological well-being and EA. In clinical terms, these results highlight the importance to target psychological processes that have been shown to be feasible goals for people with SPC (Bergsma et al., 2011; Mankiewicz et al., 2013) and that can have an impact on the reduction of symptomatology. This is quite relevant in clinical practice, given that people with insecure attachment have worse outcomes in terms of symptom severity, illness course and poorer engagement with services (Gumley et al., 2014).

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CRediT authorship contribution statement

Almudena Trucharte, Carmen Valiente and Regina Espinosa designed the study.

Carmen Valiente and Regina Espinosa coordinated the study.

Almudena Trucharte and Regina Espinosa carried out the evaluations.

Almudena Trucharte, Carmen Valiente, Regina Espinosa and Covadonga Chaves managed the literature searches and statistical analyses.

All authors contributed to and have approved the final manuscript.

Declaration of competing interest

In relation to the paper entitled “The role of insecure attachment and psychological mechanisms in paranoid and depressive symptoms: Exploratory models” for possible publication in the Schizophrenia Research. The authors confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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