Title: Adult attachment and paranoia: an experimental investigation

Running head: Adult attachment and paranoia

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Ethical statement: The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, and its most recent revision

Conflict of interest: There are no conflict of interest relating to the publication of this manuscript.

Learning objectives

- To learn about the role of insecure attachment in paranoia.
- To learn about the use of experiments to induce paranoia and test models of paranoia.
- To learn about the use of secure attachment primes in buffering distress.
- To increase awareness of the possibility that asking people with insecure attachment styles to think about images of secure attachment figures may increase distress.

Abstract:

Attachment theory may develop understanding of the occurrence and maintenance of persecutory delusions. This study investigates the role of dispositional attachment and contextually primed secure-base attachment representations in the occurrence of paranoid thinking. Sixty participants were randomly allocated to one of three conditions; a secure attachment priming condition, a positive affect condition or a neutral control condition. Following priming, all participants were exposed to a paranoia induction. State paranoia was measured at baseline and following the paranoia induction. Dispositional insecure attachment was associated with both trait and state paranoid thinking. Contrary to predictions, the secure

attachment prime did not appear to buffer paranoid thinking and had a negative impact for participants with high levels of attachment anxiety, highlighting the potentially aversive effects of exposure to secure attachment material in those with existing insecure attachment styles.

Key words: Paranoia; Attachment; Persecutory delusions; Priming

Introduction

The term paranoia describes thinking of a persecutory nature in which a person may believe themselves to be under serious and intentional threat of harm from others (Freeman & Garety, 2000). Continuum models of psychosis (van Os et al., 2000) suggest that paranoid thinking is not unique to those meeting criteria for serious mental health conditions, but can be experienced in varying levels of severity in the general population. Research using nonclinical samples (e.g. Ellett et al., 2003) has helped to develop understanding of the processes and mechanisms underlying clinical paranoia. Over the past decade, experimental paradigms to assess paranoid thinking have been developed. These have allowed for more stringent tests of models of paranoia including the investigation of possible mediating and moderating factors of paranoid thinking (e.g. Ellett & Chadwick, 2007; Lincoln et al., 2010).

Attachment theory (Bowlby, 1969) provides an important theoretical framework for understanding psychosis, and may be particularly relevant to understanding paranoia (Berry et al., 2007; Wickham et al., 2015). The theory emphasises the significance of positive early experiences with primary caregivers in the development of affect regulation, and beliefs about the self and others, that guide interpersonal experiences throughout the lifespan. Insecure attachment develops as a result of unresponsive or inconsistent early caregiving experience (Mikulincer & Shaver, 2012). Insecure attachment is hypothesised to operate along two dimensions, anxious and avoidant. Anxious attachment is typified by a preoccupation with establishing and maintaining interpersonal relationships, in the context of

being fearful of rejection, whereas avoidant attachment is associated with fear and distrust of others and the avoidance of interpersonal relationships (Mikulincer & Shaver, 2012). Both anxious and avoidant attachment have been found to be associated with paranoid thinking in clinical (Berry et al., 2008; Wickham et al., 2015) and nonclinical (Berry et al., 2006; Pickering et al., 2008) samples. There is also evidence to suggest that insecure attachment mediates the relationship between childhood adversity and paranoia (Sitko et al., 2014).

A number of studies demonstrate the positive effects of priming secure-base representations. For example, asking people to imagine an accepting and loving other increases empathic responses to others (Mikulincer et al., 2001a) and decreases negative response to psychological pain (Cassidy et al., 2009). The effect of secure base priming and the interaction between dispositional attachment and secure base priming is yet to be examined in relation to paranoid cognitions.

This study's novel contribution to the literature is to merge two previously separate foci of investigation: (1) paranoia and attachment styles; and (2) induction of paranoid thinking in college students. Exploring the effect of attachment style and attachment primes on paranoia induction will test theoretical models of attachment and paranoia and also assess the potential role of secure primes in reducing paranoia. Although the role of attachment styles in paranoia has been investigated, these findings are largely correlational. In this paper we present the first known study to experimentally test the relationship between paranoia and attachment. We will use attachment imagery to moderate paranoia induction and as such provide an analogue of the potential role of insecure attachment styles in increasing vulnerability to the

development of paranoia and to the potential role of secure attachment imagery in alleviating feelings of paranoia.

The following hypotheses were tested: (1) dispositional attachment insecurity would be positively associated with state and trait paranoia; (2) exposure to a secure attachment prime would result in attenuated reactivity in paranoid thoughts following a paranoia induction; (3) dispositional insecure attachment would predict greater reactivity of paranoid thoughts following the paranoia induction; and (4) dispositional attachment and secure base priming would interact to predict paranoid responding, specifically that the buffering effects of the secure prime will be lower in people with high levels of insecure attachment.

Method

Participants

Sixty participants were recruited from a UK university via posters and adverts on the internet advertising a study investigating the effect of mood on task performance. The sample were 18-35 years old (mean = 21, (SD) = 3.5) and 80% were female.

Measures and manipulations

Paranoia and Depression Scale (PDS; Bodner & Mikulincer, 1998) is a state measure of depression and paranoia with a 6-point scale (1 - *not at all* to 6 - *very often*). Only the seven paranoia items were measured at baseline as most depression items relate directly to task performance. Both depression and paranoia items were administered following the paranoia induction. These subscales have shown good discriminant and convergent validity

and internal consistency (Bodner & Mikulincer, 1998). In the current study, Cronbach's alphas for the paranoia (α=.79) and depressive (α=.87) subscales.

Paranoia **Scale (PS; Fenigstein & Vanable, 1992)** is a measure assessing trait levels of paranoia with a 5-point scale (1 = *Not at all applicable to me*, 5 = *extremely applicable to me*). The measure has been shown to have good internal consistency and test-retest reliability in student samples (Fenigstein & Vanable, 1992). For the current sample, Cronbach's alpha was .90.

Experiences in Close Relationships Scale Revised (ECR-R; Fraley et al., 2000) is a self-report scale designed to measure dispositional levels of attachment avoidance and attachment anxiety in the context of attachment relationships in adulthood. Participants rate how much they agree with each item on a 7-point scale (1 = *strongly agree*, 7 = *strongly disagree)*. Low scores on each dimension represent more secure attachment. The measure has been shown to have good test-retest reliability and convergent validity (Sibley et al., 2005). Cronbach's alphas were .93 for anxious attachment and 0.95 for attachment avoidance.

Depression, Anxiety and Stress Scale (**Lovibond & Lovibond, 1995)** assesses symptoms of depression, anxiety and stress over the last week. Depression items were used in this study to assess group equivalence at baseline. Items are rated using a 4-point Likert scale of frequency or severity. Good discriminant and concurrent validity (Antony et al., 1998) and

internal consistency values have been reported in normative samples. In the current sample, the Cronbach's alpha for the depression subscale was 0.91.

Attachment priming and control tasks

Guided imagery is a well-established attachment priming methodology demonstrating moderate to large effect sizes (Mikulincer, et al., 2011). This methodology has been used in a range of attachment priming studies (Mikulincer & Arad, 1999; Mikulincer, et al., 2001a; Mikulincer & Shaver, 2001; Mikulincer et al., 2005; Mikulincer, et al., 2011). In addition to the attachment prime, two control conditions were included consisting of a neutral and positive affect prime (see Appendix for scripts used). All Scripts were based on those used in previous research (Mikulincer & Shaver, 2001). Secure attachment is thought to have a positive affective component, therefore the latter control condition was included to help delineate the impact of this from the broader activation of secure base representations, thought to be associated with attachment priming. All three conditions made reference to other people and the only variable that differed in the attachment prime was the representation of secure attachment. An audio recording with prompts was used to guide participants through the task which lasted for two minutes. Following exposure to the prime, participants rated current affect across four domains (good, bad, happy, sad) on a 7-point Likert scale. After reversing positive domain scores, a total mean affect score, ranging from 1 – 7, was calculated (Mikulincer, et al., 2001b). The methodology was piloted in a small sample (N = 3) with the primary aim being to practice and refine the experimental procedures. Qualitative data indicated that the primes were operating in line with priming expectations.

Paranoia induction

An established paranoia induction paradigm was used with previously reported large effect sizes in non-clinical samples (Ellett & Chadwick, 2007). Participants completed an unsolvable task which involved presenting them with pictures with different dimensions and values and asking them to indicate which dimensions contain the correct value. Participants were filmed using a video recorder whilst completing an unsolvable task, with their recorded image being clearly visible to them on a monitor screen.

Procedure

The study had institutional ethical approval from the University of Manchester Ethics Committee and all participants gave written informed consent. The experiment was conducted by JH who was blind to priming group allocation. Participants were randomised to one of the three priming conditions using a computer-based random number generator, resulting in 20 participants per condition. One participant was excluded from the attachment prime group due to language difficulties.

Following administration of baseline measures (PDS paranoia items, PS, ECR-R and DASS), participants completed one of the three guided imagery primes followed by the post-prime affect ratings. Participants then underwent the paranoia induction, following which the PDS (paranoia and depression items) and ECR-R were completed.

Distress protocol

As part of the consent procedures, participants were advised that; 'Part of the study involves inducing a negative mood state, however the effects of this are expected to be short lived. Other studies using very similar techniques are not known to have caused any lasting effects in participants. You can stop the study at any time should you feel upset.' Following the experiments, the researcher asked whether participants felt distressed by any portion of the study and were offered a positive mood induction task. Participants were also given the contact details of the department, researcher, their GP and/or University counselling service.

Data analysis

Pearson's correlations were used to test for associations between dispositional attachment and measures of paranoia (Hypothesis 1). To investigate whether the primes buffered the effects of the paranoia induction (Hypothesis 2), a one-way analysis of variance (ANOVA) was conducted, with Time 2 state paranoia scores as the dependent variable and induction type (secure attachment prime, positive affect prime and neutral prime) as the between-subjects factor. A hierarchical regression was used to test the hypotheses that attachment insecurity would be independently associated with post-manipulation levels of paranoia (Hypothesis 3) and that there would be an interaction between dispositional attachment and the attachment prime (Hypothesis 4). To reduce possible effects of multicollinearity, scores for continuous predictors were centred around their respective means and key assumptions of regression analysis were checked before conducting the analysis (Osborne & Waters, 2002). Two dummy variables representing the three priming conditions were created, one contrasting the

attachment prime to the two control conditions (dummy variable 1) and the other contrasting the positive affect prime to the other conditions (dummy variable 2). In the first step of the regression, the two dummy variables and the mean centred attachment variables (anxiety and avoidance) were entered as predictors, with Time 2 state paranoia scores as the dependent variable. In the second step, product terms representing interactions between group and both attachment anxiety and attachment avoidance were entered into the model.

Results

Sample characteristics and group comparisons

The three groups did not differ significantly in terms of sample characteristics or study measures (see Table 1). The groups also did not differ in terms of post-prime affect scores, suggesting that at a group level the prime did not have a differential impact on affect across the priming conditions.

Associations between dispositional attachment and paranoia (Hypothesis 1)

Correlational analyses (Table 2) showed trait paranoia was positively correlated with baseline measures of attachment anxiety and avoidance. Baseline state paranoia was positively correlated with both baseline and post-prime measures of attachment anxiety and attachment avoidance. . State paranoia at time 2 was significantly correlated with attachment anxiety at Time 2.

Effect of attachment prime on paranoia (Hypothesis 2)

There was no difference in state paranoia scores at Time 2 between the three priming groups (see Table 1), indicating that the primes did not differentially impact participants' responses to the paranoia induction. Given that depressed mood co-occurs with paranoia, and may legitimately be induced by failure feedback, we also assessed group differences in state depression at Time 2. No effect of group on state depression was found (see Table 1).

Effects of dispositional attachment style on post-manipulation paranoia (Hypotheses 3 and 4)

The regression model is summarised in Table 3. The first step of the model approached significance, with attachment anxiety observed to be the only significant predictor of state paranoia at Time 2 in the model, providing initial support for the role of insecure attachment in response to the paranoia induction task (Hypothesis 3).

In step 2, the model was significant at the $p < .05$ level and explained 27% ($R^2 = .27$, 95% confidence interval [CI]: .10 - .43) of the variance, which corresponds to a medium effect size (Ferguson, 2009). Although attachment anxiety no longer made a significant independent contribution to the model, a significant interaction between attachment anxiety and group was observed. Taken together, this suggests the association between attachment anxiety and post-manipulation paranoia was better accounted for by an interaction between attachment anxiety and the secure attachment prime, providing support for Hypothesis 4. Simple slope tests suggested that higher levels of paranoia were observed in those who received the secure attachment prime, but only for those with high levels of dispositional attachment anxiety (see Figure 1).

The regression reported above refers to findings related to the second administration of the attachment measure. When the regression was conducted using the baseline measure of global attachment, the interactions between global attachment and group were not significant.

Discussion

This study investigated the role of dispositional attachment and contextually primed secure-base attachment representations in the occurrence of paranoid thinking in a nonclinical student sample. There was some evidence of associations between dispositional insecure attachment and paranoid thinking. However, the secure attachment prime did not appear to buffer paranoid thinking and had a negative impact for participants with high levels of attachment anxiety. The fact that we found an interaction effect for attachment anxiety and not attachment avoidance may be explained by the possibility that people with higher levels of avoidant attachment are more effective in supressing negative affect including any negative affect associated with the secure attachment prime. Associations between dispositional insecure attachment and paranoia support existing literature highlighting the role of insecure attachment in the development of paranoia.

Although the predicted buffering effects of the secure attachment prime were not observed (the potential reasons for this are considered further below), exposure to the secure base prime was found to predict paranoid thinking in those with high level of dispositional attachment anxiety. This was not observed in those with high level of attachment avoidance. While this finding should be viewed with caution, it is has a number of theoretical and

clinical implications. Attachment anxiety was more consistently and strongly correlated with both state and trait paranoia than was attachment avoidance, in line with findings reported by Berry and colleagues (Berry, et al., 2006), who also used a nonclinical sample.

Attachment anxiety is associated with hypervigilance for interpersonally threatening information, which may leave people more vulnerable to paranoid thinking (Ein-Dor et al., 2010). Attachment avoidance was less strongly and consistently associated with state and trait paranoia in the present study. In contrast, associations between these variables have been reported in clinical samples (Berry, et al., 2008). Attachment avoidance is characterised by withdrawal from social relationships and lack of disclosure of thoughts and feelings to others. In the context of psychosis, these coping strategies may reinforce paranoid thinking. However, in nonclinical populations, such strategies may be less extreme and thus have a less significant impact on paranoia (Ein-Dor, et al., 2010).

tThe predicted buffering effects of the secure attachment prime were not supported as paranoia did not vary as a function of prime type. It does, however, seem premature to reject the possible buffering effects of the secure prime, as there are several alternative explanations that could account for this null finding. While the reduction of paranoia from Time 1 to Time 2 may suggest that the paranoia induction was not successful, this seems unlikely given that (a) the induction used is an established paradigm, which has been shown to induce paranoia in a number of studies (Bodner & Mikulincer, 1998; Ellett & Chadwick, 2007; Flower et al., 2013; Kingston & Ellett, 2014), and (b) data from the current study showing a significant interaction of dispositional attachment and secure base priming predicting paranoid responding. Another possibility is that state paranoia reduced as the experiment progressed; a

subsequent re-activation of paranoia following the induction paradigm may have been masked by initially elevated baseline levels. This hypothesis is in line with findings reported by Kingston and Ellett (2014), who measured paranoia at three time points within their experiment. The lack of a post-prime measure of state paranoia in the current study makes it difficult to separate out the effects of the primes and the paranoia induction.

Despite the absence of buffering effects, the findings from the current study show empirically for the first time, associations between dispositional attachment and (post manipulation) state paranoia. Attachment anxiety predicted greater reactivity of paranoid thoughts following the paranoia induction. Interestingly, higher levels of paranoia were observed in those who received the secure attachment prime, but only amongst those participants with high levels of dispositional attachment anxiety. The latter is consistent with the findings reported by Mikulincer and colleagues (2011), who demonstrated that the positive effects of a guided imagery prime were not observed in people with high dispositional attachment anxiety. It was suggested that the overt processing of attachment-related material may have detrimental effects in those with high levels of attachment anxiety, potentially via the activation of negative attachment experiences. Indeed, this is consistent with qualitative statements reported by participants in the current study, in that a number reported feeling ‘distressed’, ‘upset’ or ‘hopeless’ following the secure prime. These findings also fit with the concept of a ‘fear of compassion’ (Gilbert et al., 2011), which involves experiencing negative responses to compassion received both from others and the self and has been associated with insecure attachment (Gilbert et al., 2012). Future research might

usefully examine interactions between insecure attachment style, fear of compassion, and paranoia.

The findings that dispositional insecure attachments can increase distress in response to secure attachment primes highlight the importance of always assessing dispositional attachments in such research and routinely assessing interactions effects. The possibility that those with insecure attachment may react negatively to secure attachment primes also has clear ethical implications for research in this area and highlights the need for appropriately sensitive distress protocols in attachment priming research. The finding also has particularly important implications in the context of clinical work, suggesting that clinicians should always use a formulation-based approach when using secure attachment imagery which takes into account the individual person's attachment history. Although this idea makes intuitive sense, our study provides empirical evidence that applying imagery strategies without such individualised conceptualisations may increase distress.

Due to different views within the attachment priming literature regarding when to measure dispositional attachment (Cassidy, et al., 2009; Mikulincer, et al., 2001a), the ECR-R measure was administered at two time points, baseline (Time 1) and following the paranoia induction (Time 2). Given the reported stability of the ECR-R (Lopez & Gormley, 2002), both administrations were expected to result in comparable findings. However, examination of the data suggested that total attachment scores were higher at Time 1 (M = 2.86, SD = 1.01) than at Time 2 (M = 2.71, SD = 1.09). This was an interesting and unexpected finding and raises the exciting possibility that self-reported attachment patterns might be amenable to

experimental manipulation. A related issue is that the interaction between group and dispositional attachment was significant only with Time 2 attachment scores, and not with Time 1 attachment scores. It seems unlikely that the second administration of the measure was affected by the attachment prime as no significant group differences were observed. Alternatively, the differing context of the administration at the two time points in the experiment may explain the discrepant findings. In particular, exposure to threat is thought to activate attachment schemas thus making them more available to conscious processing (Mikulince et al., 2003a). The second administration of the measure in a threat-laden context (i.e. after the paranoia induction), could have made the attachment schema more available and may therefore provide a more accurate measure of attachment. On the other hand, the elevated state paranoia scores at Time 1 suggest that participants experienced Time 1 as more threat laden. Overall, the apparent fluctuation in self-reported attachment across different contexts is an interesting finding and one that warrants further research in studies comparing threat-laden versus neutral experimental contexts.

This study has a number of strengths including the use of well-established priming and paranoia induction techniques, the use of randomisation and experimenter-blinding procedures, and outcome measures of both depression and paranoia. There are, however, a number of limitations. The lack of a measure of state paranoia following the priming conditions meant that we were not able to demonstrate the differential effects of the primes and paranoia induction. However, we were able to conclusively demonstrate that participants were equivalent at baseline on the key variables measured in the study. Future experimental research might usefully include multiple measures of state paranoia, whilst simultaneously

ensuring that analyses are appropriately controlled for repeat testing of variables. Additionally, the reliance on a self-report measure of attachment may not adequately tap covert attachment dynamics. Future research might consider using subliminal attachment primes, alongside both self-report and interview-based measures of attachment, such as the Adult Attachment Interview (George et al., 1985), to provide a more thorough and robust assessment of attachment. Finally, the nonclinical nature of the sample limits generalisability of findings to clinical populations. However, when treated with appropriate caution, nonclinical samples continue to offer great utility in psychological research.

Conclusions and clinical implications

Paranoia was associated with levels of insecure attachment, which is consistent with previous research and supports the hypothesis that attachment is important in paranoia. This study provides important evidence that asking people with an anxious attachment style to think about secure attachment experiences has the potential to increase, rather than decrease, state paranoia, and potentially has important implications for clinical practice. In particular, it demonstrates the potentially aversive effects of exposure to secure-base material in those with elevated levels of attachment anxiety, which could result in people who are high in attachment anxiety being vulnerable to guided imagery or other therapeutic interventions which attempt to expose them to positive attachments. As such therapists should always adopt a formulation-based approach which takes into account the person's attachment history in determining the potential risks of attachment-based imagery. The findings suggest that this might be particularly important in any therapeutic work carried out in the context of paranoia. An attachment-informed model of therapy would suggest that therapists may need to work

additionally hard to develop trusting relationships and a secure therapeutic base with those with insecure attachment patterns and associated difficulties in earlier attachment relationships. However, the provision of a reliable, sensitive and responsive therapy relationship over time may result in the development of a good therapeutic alliance which provides a platform to help the person make changes in their lives. In such circumstances the relationship with the therapist and associated feelings of security may provide the basis coping with difficult feelings or the challenges associated with making changes in behaviour (Berry & Danquah, 2016).

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Appendix

Secure prime script:

"Imagine yourself in a problematic situation that you cannot solve on your own, and imagine that you are surrounded by people who are sensitive and responsive to your distress, want to help you only because they love you, and set aside other activities in order to assist you."

Neutral Prime Script

“Imagine yourself going to a supermarket and buying products you need for your house. Imagine other persons who are also buying products, talking among themselves about daily issues, examining new brands, and comparing different products.”

Positive Affect Prime Script

"Imagine yourself receiving a notice that you win a large amount of money in the national lottery, and imagine other students or colleagues in your class hearing about this notice, approaching you, congratulating you, and telling others about your good fortune."

Table 1. Sample characteristics and study measures

Variable	Attachment prime Mean (SD) (N = 19)	Neutral prime Mean (SD) (N = 20)	Positive affect prime Mean (SD) (N = 20)	Statistics (f / X^2 values) (df = 2)
Age	22.17 (1.73)	21.37 (1.85)	20.25 (1.85)	f = 1.5, p = .23
Gender (male:female)	5:14	3:17	3:17	X^2 = 1.09, p = .58
Time 1 Paranoia Scale	34.32 (13.80)	36.00 (11.25)	34.65 (11.15)	f = 0.24, p = .79
Time 1 PDS (Paranoia)	18.11 (7.22)	18.5 (6.11)	16 (5.56)	f = 0.90, p = .41
Time 1 Depression (DASS)	6.11 (7.59)	9.6 (8.38)	5.7 (6.72)	f = 1.59, p = .21
Time 1 ECR Avoidance	2.79 (1.25)	2.96 (1.21)	2.66 (1.20)	f = 0.301, p = .741
Time 1 ECR Anxiety	2.79 (1.11)	3.10 (1.08)	2.89 (1.12)	f = 0.410, p = .67
Post Prime Mood	5.16 (1.37)	5.1 (1.42)	4.28 (0.65)	f = 1.06, p = .35
Time 2 PDS (paranoia)	16.89 (6.94)	14.7 (6.44)	14.0 (5.06)	f= 1.16, p=.32,
Time 2 PDS (depression)	23.74 (8.11)	24.8 (9.8)	20.6 (9.21)	f= 1.17, p = .33
Time 2 ECR-R Avoidance	2.60 (1.31)	3.00 (1.31)	2.60 (1.46)	f = 0.57, p = .57
Time 2 ECR-R Anxiety	2.42 (0.90)	2.93 (1.20)	2.69 (1.26)	f = 0.97, p = .39

SD = standard deviation; PDS = Paranoia and Depression Scale; ECR-R = Experiences in Close Relationships Scale Revised.
DASS = Depression, Anxiety & Stress Scales.

Table 2. Correlational analysis: attachment and paranoia

Variable	Time 1 Attachment anxiety	Time 1 Attachment avoidance	Time 2 Attachment anxiety	Time 2 Attachment avoidance
Trait paranoia (PS)	$r = 0.4$ $p = .002$	$r = 0.27$ $p = 0.04$	$r = 0.24$ $p = .06$	$r = 0.17$ $p = .19$
Time 1 State paranoia (PDS)	$r = 0.52$ $p = .000$	$r = 0.3$ $p = .02$	$r = 0.46$ $p = .000$	$r = 0.33$ $p = .01$
Time 2 State paranoia (PDS)	$r = 0.23$ $p = .08$	$r = 0.16$ $p = 0.22$	$r = 0.28$ $p = .029$	$r = 0.18$ $p = .18$

Table 3: Summary of hierarchical regression with PDS paranoia (Time 2) as the outcome variable

		b	SE *b*	*B*	95% CI Lower bound	95% CI Upper bound
Step 1						
	Constant	14.26	1.35		11.56	16.95
	Dummy Variable 1	3.09	1.94	.24	-0.80	6.88
	Dummy Variable 2	-0.25	1.90	-.02	-4.05	3.56
	Attachment anxiety	1.69	0.83	.31*	0.03	3.35
	Attachment avoidance	0.10	0.69	.02	-1.28	1.49
Step 2						
	Constant	14.67	1.31		12.03	17.31
	Dummy Variable 1	3.60	1.90	.27	-0.21	7.41
	Dummy Variable 2	-0.73	1.84	.06	-4.42	2.96
	Attachment avoidance	0.31	1.22	.07	-2.15	2.76
	Attachment anxiety	-0.20	1.33	-.04	-2.88	2.48
	Attachment avoidance X Dummy variable 1	0.08	1.69	.01	-3.32	3.49
	Attachment anxiety X Dummy variable 1	5.24	2.17	.44*	0.90	9.60
	Attachment avoidance X Dummy variable 2	-0.74	1.62	-.10	-3.99	2.52
	Attachment Anxiety X Dummy variable 2	2.11	1.82	.25	-1.54	5.65

Note: N = 59; Step 1 R^2 = .14 (*n.s*), for Step 2, R^2 = .27, *p < .05. Dummy Variable 1 (attachment prime versus neutral & positive affect primes), Dummy variable 2 (positive affect prime versus attachment & neutral primes).

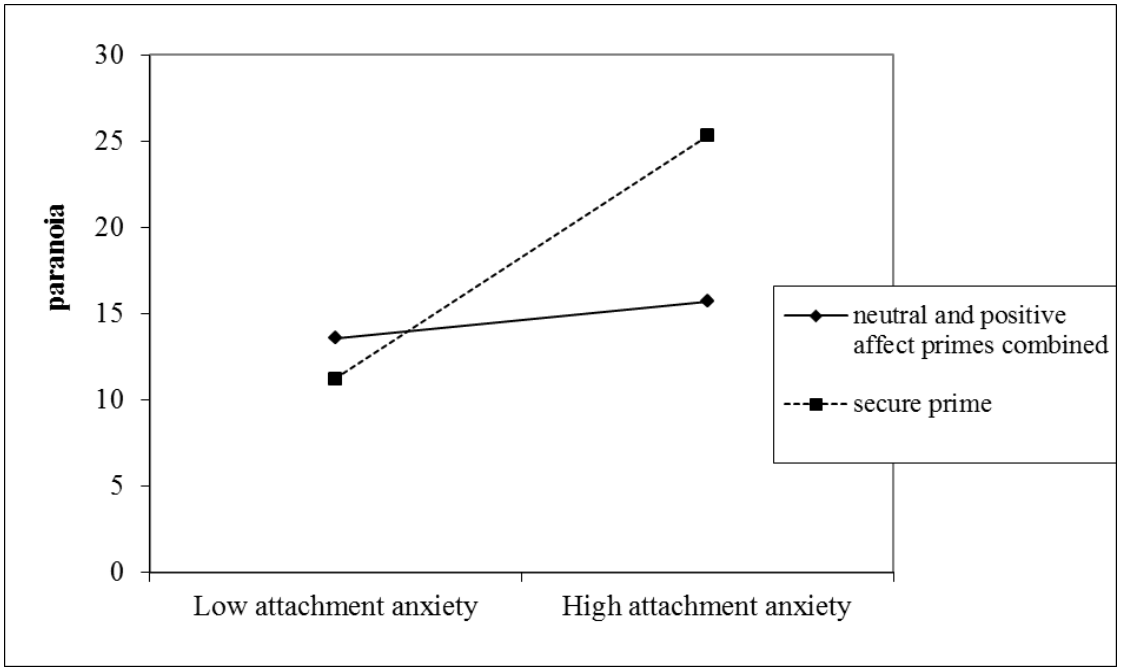

Figure. 1. Interaction effect of group and attachment anxiety on state paranoia

Summary

We investigated how attachment styles interact with secure-base attachment representations during an experiment to induce paranoia. We randomly allocated sixty participants to a secure attachment priming condition, a positive affect condition or a neutral control condition. All participants were then exposed to a paranoia induction. We found that insecure attachment style was associated with paranoid thinking. However, unexpectedly the secure attachment prime did not appear to buffer paranoid thinking and had a negative impact for participants with high levels of attachment anxiety. Our findings suggest that exposing people

with insecure attachment styles to secure attachment material could increase rather than decrease distress.

Further reading

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