

Impact of Paranoia on Implicit and Explicit Measures of Trust

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Objectives

To examine the effect of paranoia on sub-conscious and conscious processes involved in making judgements on trustworthiness within a non-clinical population.

Introduction

- Paranoia refers to an excessive or irrational suspiciousness and distrustfulness, and is characterised by persecutory delusions or an unfounded belief of impending harm and that the persecutor has the intention to cause harm (Freeman, Garety, & Phillips, 2000).
- It is a common condition estimated to be present to varying extents in approximately one-third of the population (Freeman et al., 2005). It is experienced across a wide spectrum of severities, and can be present in psychosis or as a symptom in otherwise healthy people.
- Treatment of psychosis by cognitive behavioural therapy (CBTp) has been an exciting development in recent years, but has unfortunately been unable to attain its intended efficacy in clinical trials. Anecdotal evidence suggests that this may be due to the difficulties faced by therapists in helping paranoid patients believe that others are not malevolent.
- This study is part of a larger research programme aimed at increasing effectiveness of CBTp with oxytocin, a naturally-occurring peptide hormone which aids bonding and increases trust. We hope to be able to use results from this study to determine an outcome measure for future RCTs involving administration of oxytocin for CBTp.

Methods

- 20 participants (10 high paranoia, 10 low paranoia) were recruited via an online administration (n=219) of the Green Paranoid Thoughts Scale (GPTS), a self-reported, 32 item scale assessing social reference and persecution.
- Participants were then asked to perform several computer based tasks
 - Implicit Task
 - Utilising the phenomenon of attentional blink*, participants were shown a randomised string of 20 scrambled faces and two unscrambled faces consisting of a neutral face (T1) and another neutral, angry or fearful face (T2) at 80ms apart each.
 - At the end of each string participants were asked to identify the gender of the face at T1 and if T2 was present.
 - The time interval (referred to as "Lag") between T1 and T2 varied from 2, 3 and 7 scrambled faces (i.e. 160ms, 240ms, 560ms respectively).
 - Participants were shown a total of 306 strings with two stimuli faces (T1 and T2) and another 102 strings with T1 only.

* Attentional blink (AB) is a temporary deficit in detecting a second stimulus (T2) if it is shown within 180-270ms of a first stimulus (T1). Emotionally salient information has been shown to attenuate AB, increasing rate of T2 detection.

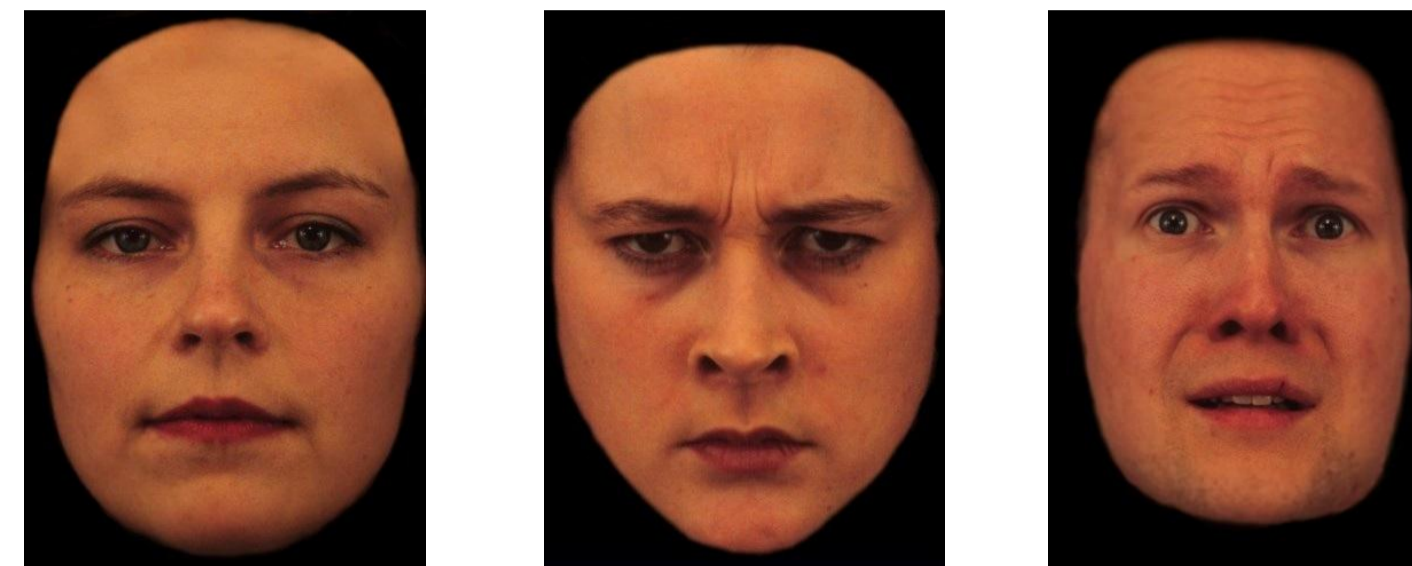


Figure 1 Examples of "neutral", "angry" and "fearful" (L-R) faces used in implicit task

- Explicit Task
 - Participants were shown a neutral emotion face for 300ms, and asked to evaluate the face for attractiveness, intelligence or trustworthiness on a 7-point Likert Scale
 - A total of 15 faces with 5 faces for each characteristic was used.
- Fidelity Tests
 - Participants were given three questions ("I was able to pay attention to the task", "I found my mind wandering while completing the task", "I found it hard to pay attention to the task") and were asked to mark a 10cm line according to how strongly they agreed with the statements. These markings were then converted to scores of 0-100.

Results

- Implicit Task
 - A repeated measures ANOVA was used to compare rate of T2 identification between both groups.
 - Participants were more likely to identify emotionally valenced faces regardless of paranoia level.
 - No significant difference was found between the performance of both groups ($F(2,36)=0.40, p=0.673$).

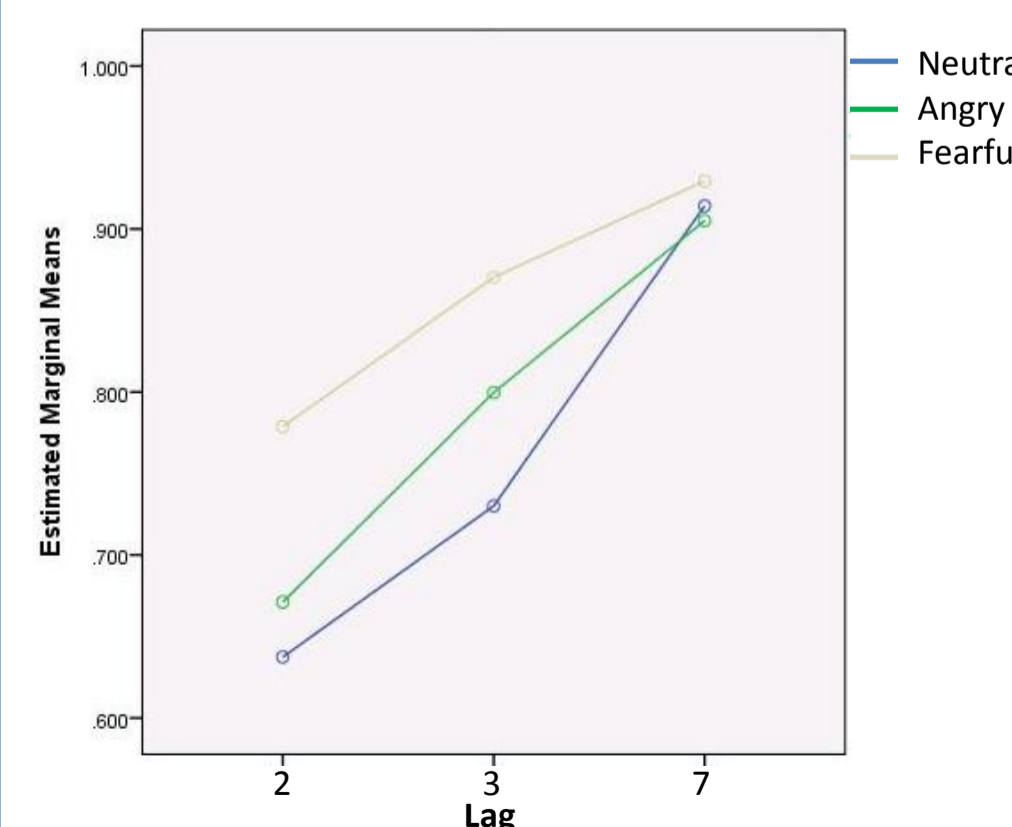


Figure 2 Rate of T2 Identification by Emotion

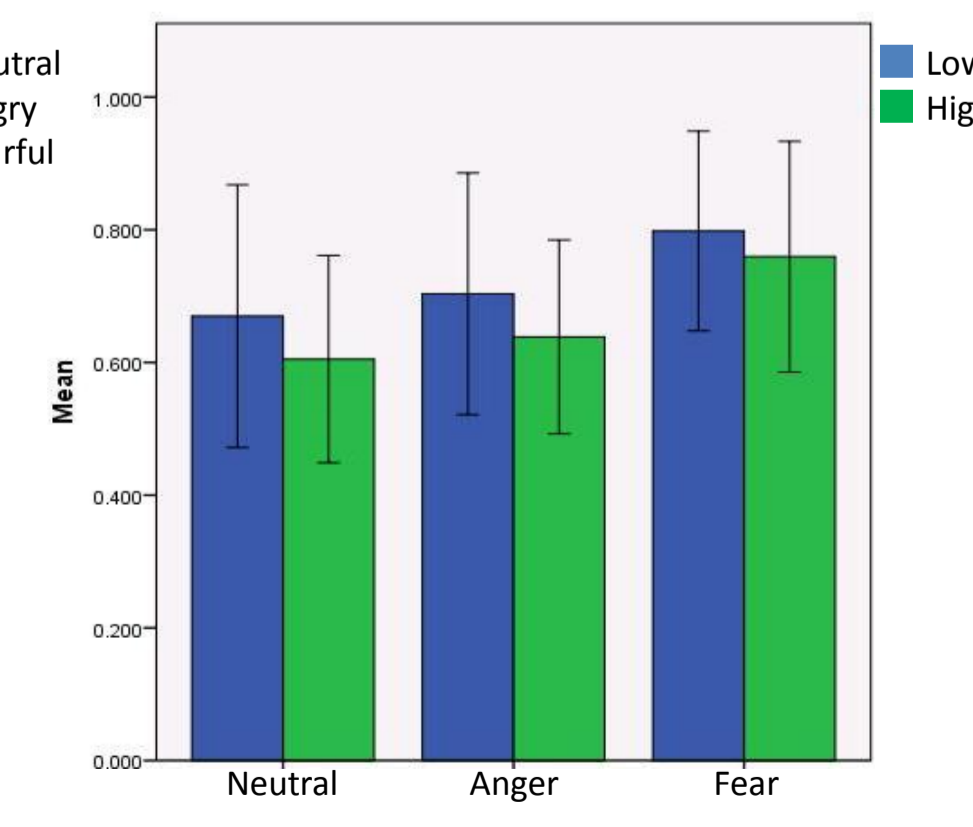


Figure 3 Rate of T2 Identification at Lag2 by Group

Explicit Task

- A one-way ANOVA was performed to compare mean scores for each characteristic between the groups.
- Mean scores for trust were significantly lower in the high paranoia group compared to the low paranoia group ($F(1,18)=5.160, p=0.036$).
- No significant differences were found between mean scores for attractiveness ($F(1,18)=0.700, p=0.414$) and intelligence ($F(1,18)=0.200, p=0.890$) of both groups.

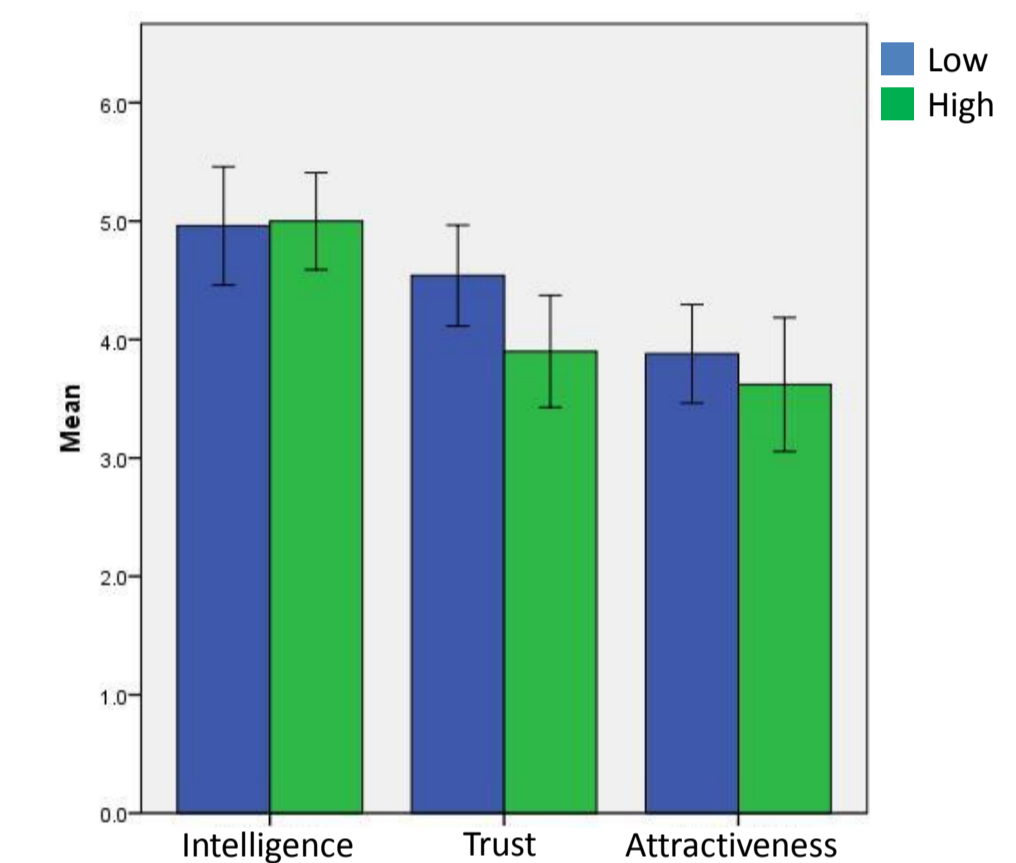


Figure 4 Comparison of Mean Scores of Facial Characteristics by Group

Fidelity Tests

- Participants from the high paranoia group indicated a significantly higher level of distraction ("I found my mind wandering while completing the task") compared to the low paranoia group ($t(18)=-2.87, p=0.010$).
- No significant differences were recorded in other fidelity measures.

Conclusions

- In this healthy population there was an impact of paranoia on reported levels of trust which was not seen with the control personality traits or on the implicit task.
- This suggests that the lack of trust is a conscious judgement rather than an unconscious process, which in turn has implications for the development of psychological treatment strategies.
- Distraction may have impaired performance in the high paranoia group.
- Results of this small pilot need to be interpreted with caution.

References

- Freeman, D., Garety, P. A., & Phillips, M. L. (2000). An examination of hypervigilance for external threat in individuals with generalized anxiety disorder and individuals with persecutory delusions using visual scan paths. *Q J Exp Psychol A*, 53(2), 549-567. doi: 10.1080/713755896
- Raymond, J. E., Shapiro, K. L., & Arnell, K. M. (1992). Temporary suppression of visual processing in an RSVP task: An attentional blink? *Journal of Experimental Psychology: Human Perception and Performance*, 18(3), 849-860. doi: 10.1037/0096-1523.18.3.849