

Understanding the impact of anxiety on belief and desire reasoning

Martina De Lillo¹, Andrew Todd² & Andrew Surtees¹

¹School of Psychology, University of Birmingham, Birmingham, UK

²Department of Psychology, University of California, Davis, CA, USA



Background

Understanding other can be a challenging process and different factors can affect how we infer and interpret others' mental states, emotions. In these studies we were interested in we investigating whether anxiety affects our ability to reason about believes and desires of others. to control whether anxiety impacts cognitive load, participants also completed the Wisconsin Card Sorting Test (WCST), a well-known executive functions (EFs) measures.

Methods and procedures

Using a within-subjects design, 50 participants [F:M = 45:5; Age = 17-23, (M = 18.9)], were randomly assigned in two counterbalanced occasions to either an anxiety induction condition or to a relaxed (neutral) condition.

General Procedure

Anxiety Induction	Neutral Induction
First Anxiety Induction ➤ Describe a time in which you felt very anxious Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]	First Neutral Induction ➤ Describe your typical morning Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]
Belief and desire task (First two blocks)	
Second Anxiety Induction ➤ Describe in detail the experience reported previously Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]	Second Neutral Induction ➤ Describe how you get to University Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]
Belief and desire task (Last two blocks)	
Third Anxiety Induction ➤ Describe in detail another time in which you felt very anxious Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]	Third Neutral Induction ➤ Describe your typical evening Manipulation Check [Anxiety, Neutral, Arousal (1= <i>not at all</i> , 7= <i>very much so</i>)]
WCST	
STAI-S (State Anxiety Inventory Scale)	

Belief and Desire Reasoning Task

B+ D+

True Belief Approach Desire

He loves apples
Really the apples are in the blue box
He thinks the apples are in the blue box

B- D+

False Belief Approach Desire

He thinks the crackers are in the red box
Really the crackers are in the blue box
He loves crackers

B+ D-

True Belief Avoidance Desire

Really the biscuits are in the red box
He thinks the biscuits are in the red box
He hates biscuits

B- D-

False Belief Avoidance Desire

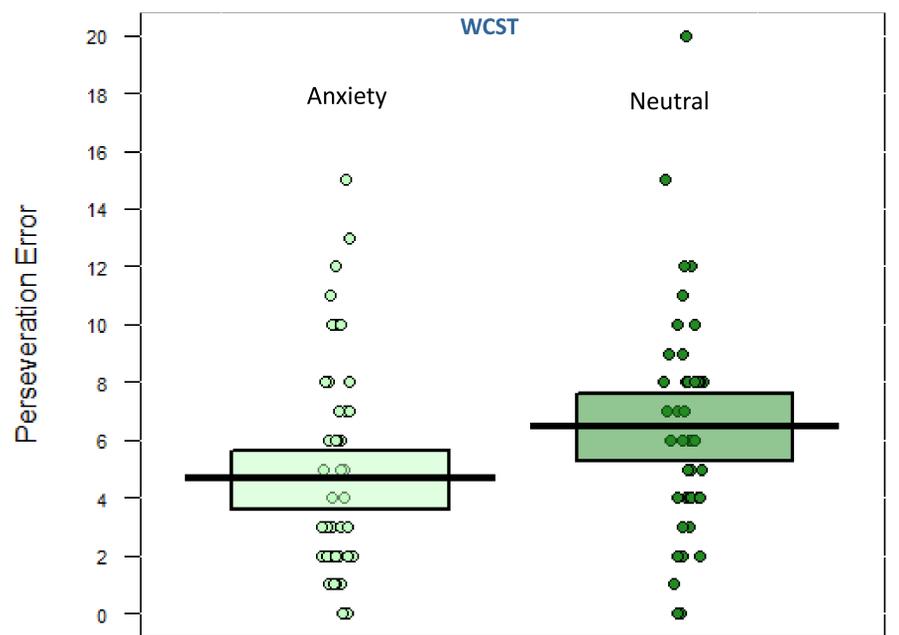
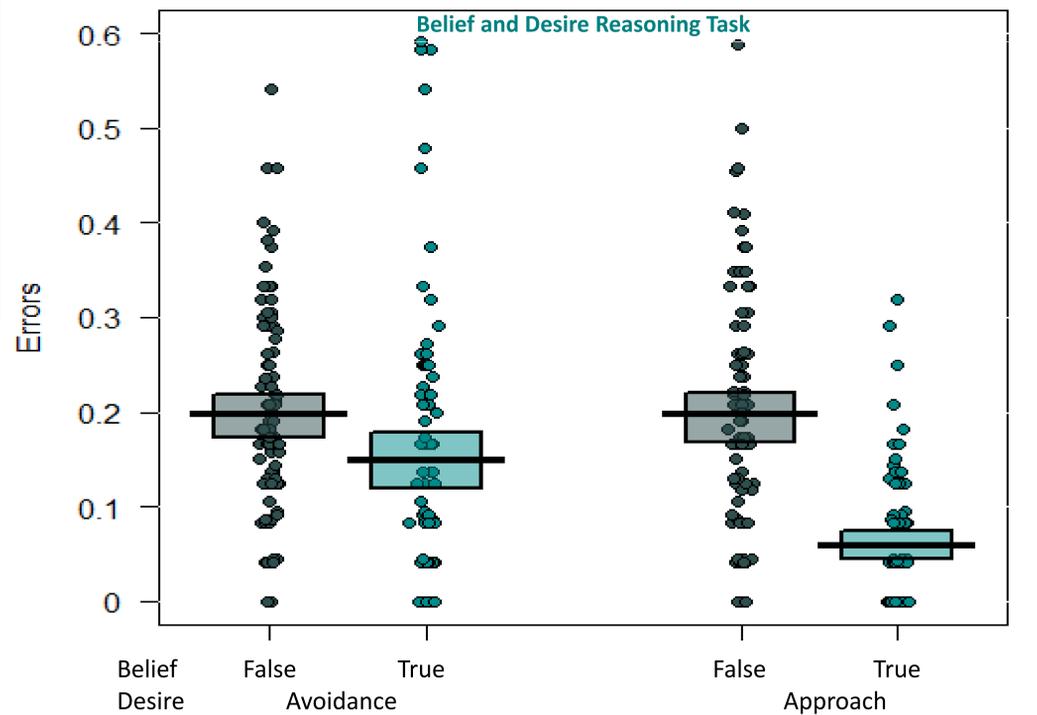
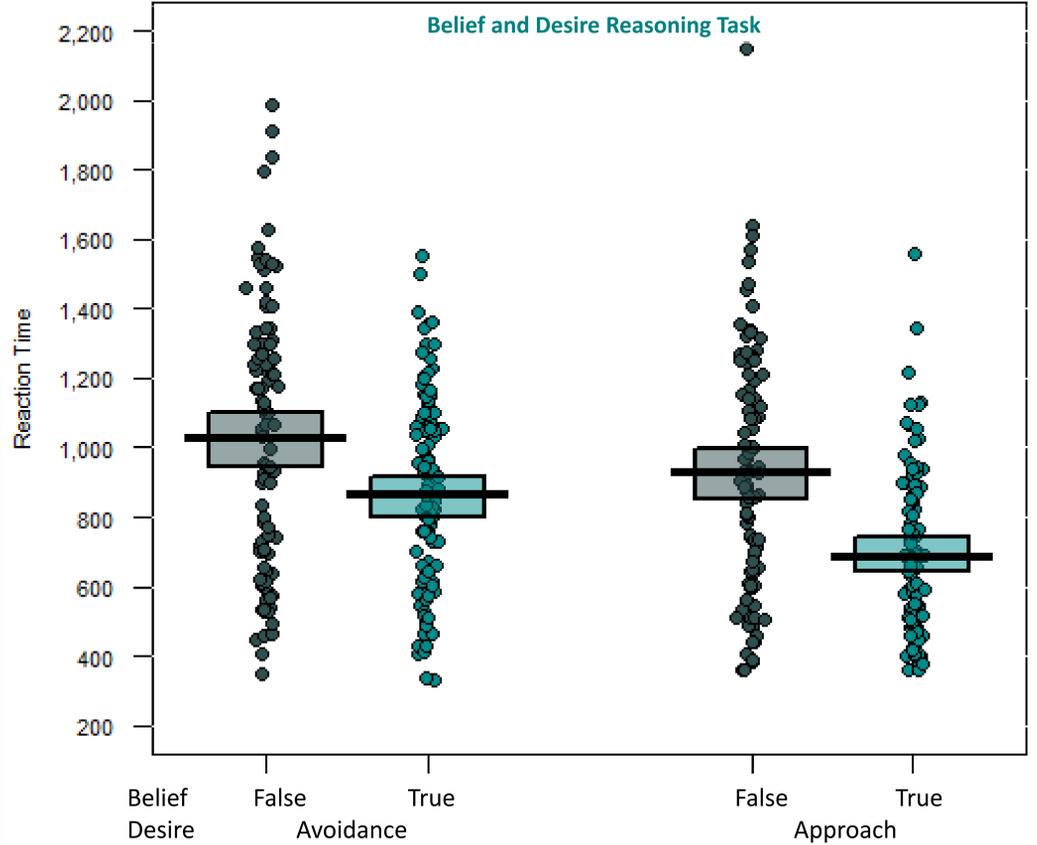
Really the muffins are in the blue box
He hates muffins
He thinks the muffins are in the red box

WCST

Correct or Incorrect

- Colour
- Shape
- Number

Results



Discussions

- We replicate previous studies findings that showed a slower RT and higher number of errors when judging False Belief and Avoidance Desire. Significant interactions between belief and desire were also found, which replicated the main effects of belief and desire.
- We found no differences between the anxiety and the neutral condition in the belief and desire reasoning task, which might indicate either anxiety does not affect belief and desire reasoning or that the induction employed in this study was not sufficient to disrupt this type of reasoning.
- We found that participants in the Anxiety condition commit less perseverative errors in the WCST. This could be explained by heightened bottom-up process of alerting attention, which could focus individuals' attention on the task at hand and thus facilitate performance on EF tasks.