

# The Role of Attentional Bias on the Relationship between Rumination and Anxiety: A Modified Dot Probe Task Investigation



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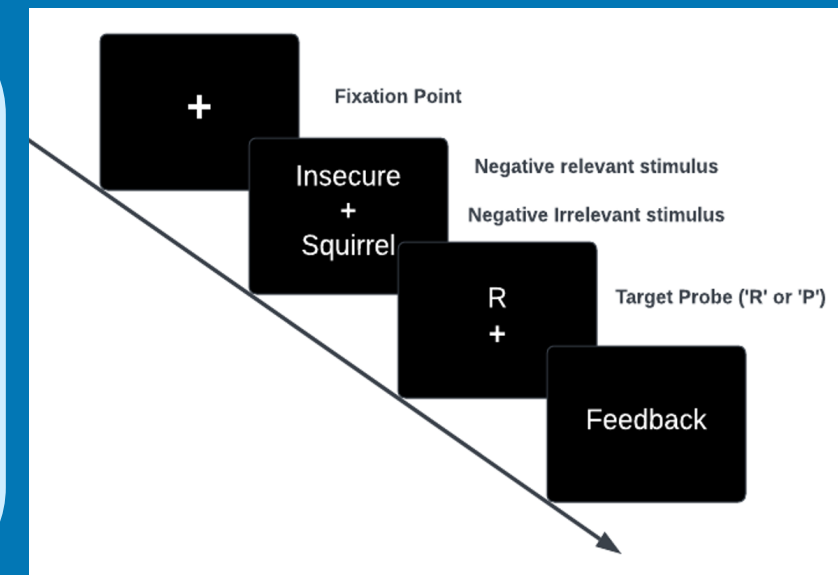


## INTRODUCTION AND AIMS

- As anxiety disorders become more common, with an estimated 1 in 9 people in Ireland meeting diagnostic criteria (St Patrick's Mental Health Services, 2019), researchers have been interested in ruminative thinking as a significant factor contributing to anxiety symptomology.
- However, it remains inconclusive as to how they are correlated or what cognitive mechanisms are impacting the pathway between internal ruminative thoughts to external symptoms of anxiety.
- Recent evidence suggests an automatic negative attentional bias to account for this relationship by which a constant attending to negative environmental stimuli increases the persistence of the engagement in ruminative thought and anxiety (Vălenaş et al., 2017).
- This study aimed to: (1) assess the mediational impact of negative attentional bias on rumination and anxiety; and (2) examine the differences between the subtypes of brooding and reflective pondering in their relation to anxiety.

## METHOD

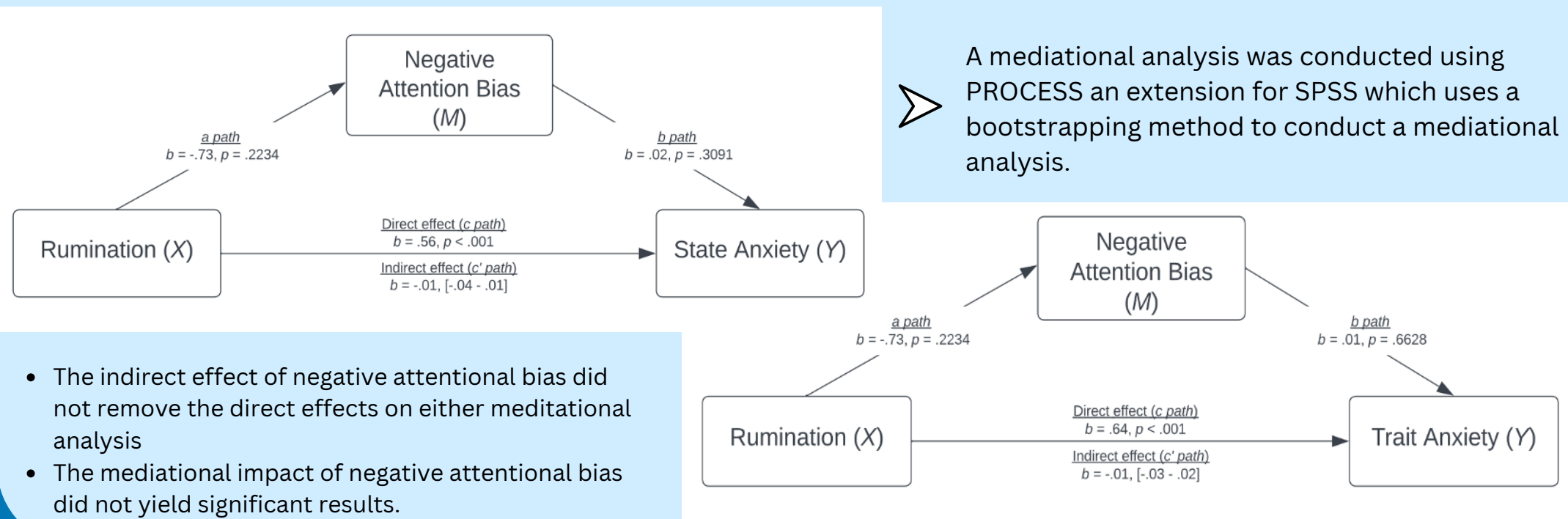
- A convenience sample of 94 healthy individuals in ages from 18 to 64 ( $M = 27.27$ ,  $SD = 11.44$ ) participated in the study.
- Quantitative correlational research design was adopted.
- Completed questionnaires through Google Forms and a cognitive task remotely on Inquisit Web.
- Measures included:  
The State-Trait Anxiety Inventory (Spielberger et al. (1983))  
The Ruminative Responses Scale (Nolen-Hoeksema & Morrow, 1991)  
Modified version of the Emotion Dot Probe Task (Sutton & Altarriba, 2011)
- Modifications to the original script were made by recoding editable variables including; recoding the location of word presentation to reduce impact of the Simon Effect (Simon & Rudell, 1967).



## RESULTS

Multiple regression analysis revealed rumination to predict 48% of the variance in levels of state anxiety and 61% of the variance in trait anxiety.

- Brooding was found to positively predict both state and trait anxiety to a significant degree ( $\beta = .3$ ,  $\beta = .11$ ).
- Reflective Pondering was found to negatively predict both state and trait anxiety to a significant degree ( $\beta = -.29$ ,  $-.43$ ).



- The indirect effect of negative attentional bias did not remove the direct effects on either mediational analysis
- The mediational impact of negative attentional bias did not yield significant results.

## DISCUSSION

- Results suggested that reflective pondering is associated with lower anxiety ratings, supporting the hypothesized adaptive problem-solving function of ruminative thinking.
- Although no mediational effect is observed, this warrants further research with more rigorous standardisation measures.
- Alternatively, other aspects of attention, such as deficits in attentional control highlighted by Gorlin and Teachman (2015), may play a role in the relationship between rumination and anxiety.

### Limitations

- Cross-sectional design; no causal inference, potential confounding variables
- Not conducted in a lab setting; challenges internal validity

### Strengths

- Objective measurement of attentional bias functioning created enhanced ecological validity.
- Large sample size considering the lack of funding.

### Implications/ Future Research

- The adaptive nature of reflective pondering holds significant implications for research focusing on treatments targeting rumination.
- To enhance the validity and reliability of findings, future studies should consider employing a multi-method approach, incorporating multiple measures to reduce variability in assessing attentional bias.