

# TRANSDIAGNOSTIC COGNITIVE BIASES IN PSYCHIATRIC DISORDERS: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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## INTRODUCTION

→ Cognitive dysfunction is a transdiagnostic feature of psychopathology, coined the **“C” factor**<sup>1</sup>.

→ **Cognitive biases** (e.g., in attention, memory, and interpretation)<sup>2</sup> are common tendencies in information processing and **often associated with psychiatric symptoms across diagnoses**<sup>3</sup>, such as delusions and hallucinations in schizophrenia-spectrum disorders, and emotion regulation in mood disorders.

→ However, the question remains **whether cognitive biases are transdiagnostic or specific to certain psychiatric disorders or symptoms**.

→ In this systematic review & meta-analysis, we sought to address **whether the proposed “C” factor of transdiagnostic cognitive dysfunction in psychopathology can be extended to cognitive biases and transdiagnostic symptom dimensions**<sup>4</sup> of psychopathology.

## METHODS



**SYSTEMATIC REVIEW CRITERIA:**

- Adults with a DSM or ICD diagnosis
- Study assessed group differences and/or symptom associations with ≥1 cognitive biases

**BIAS & SYMPTOM CATEGORIZATION:**

- Cognitive Biases:** interpretation, attention, and memory
- HiTOP:** general psychopathology (p factor) emotional dysfunction, psychosis & externalizing

**META-ANALYSIS:**

- Traditional:** (1) group differences (2) correlations with HiTOP symptoms
- Network:** direct and indirect effects between diagnoses

SYNTHESIS METHODS



**31 studies**

- 22 interpretation bias
- 11 attention bias
- 2 memory bias



**4401 participants**

- 2536 patients
- 1865 controls



**19 cognitive biases**

- 22 interpretation
- 11 attention
- 2 memory

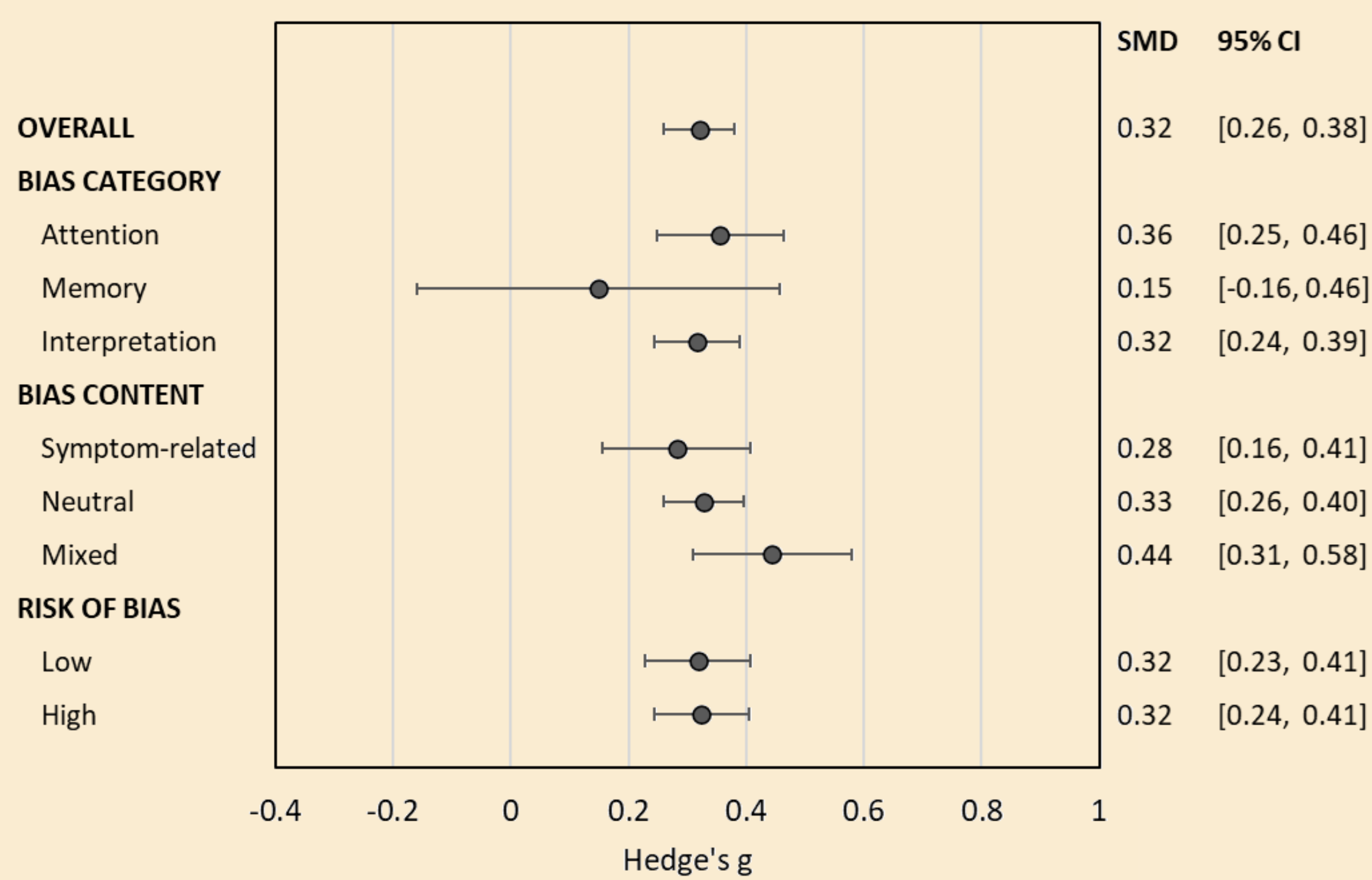


**21 diagnostic categories**

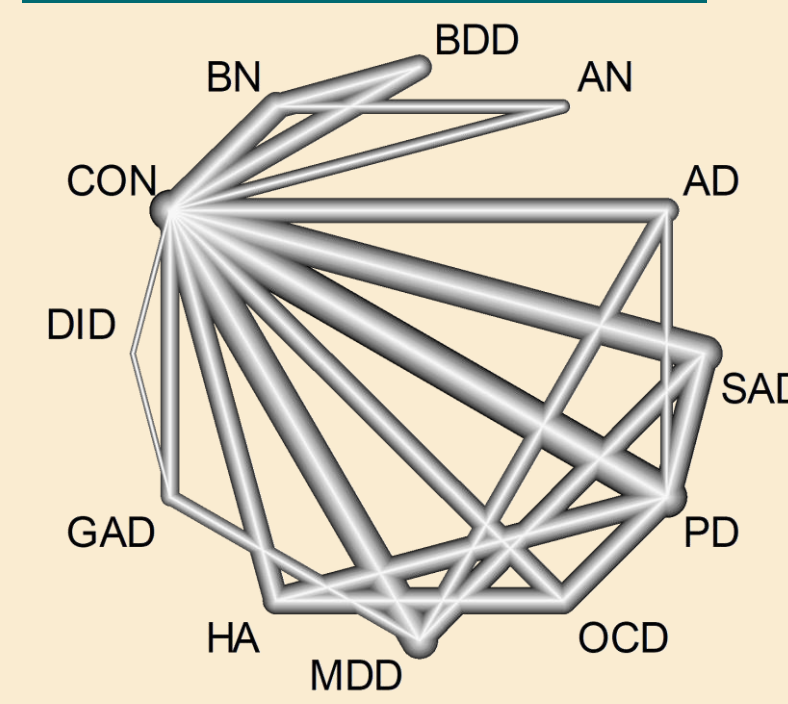
- mood, psychotic, anxiety & eating disorders

## RESULTS

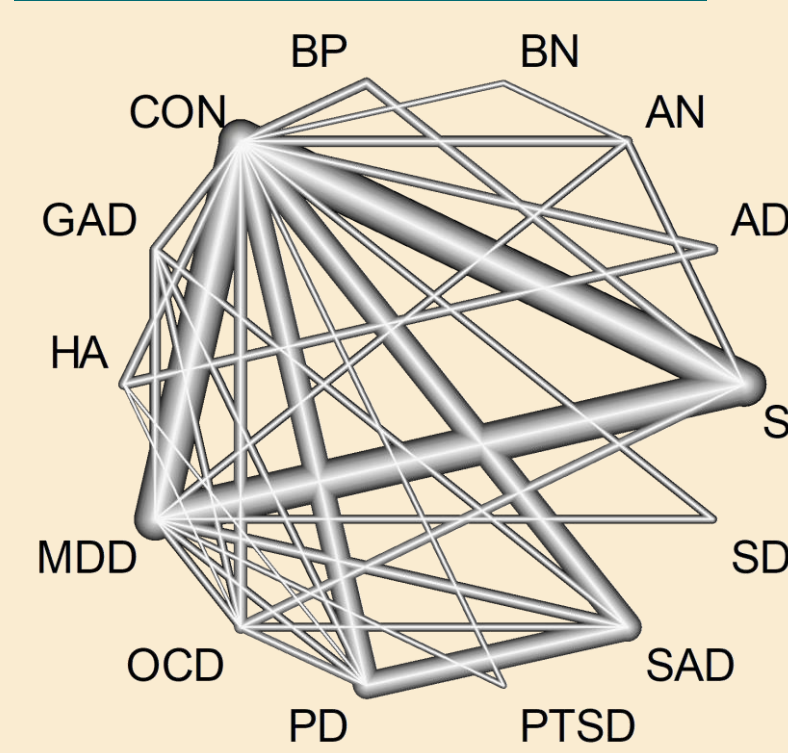
### Traditional Meta-Analyses



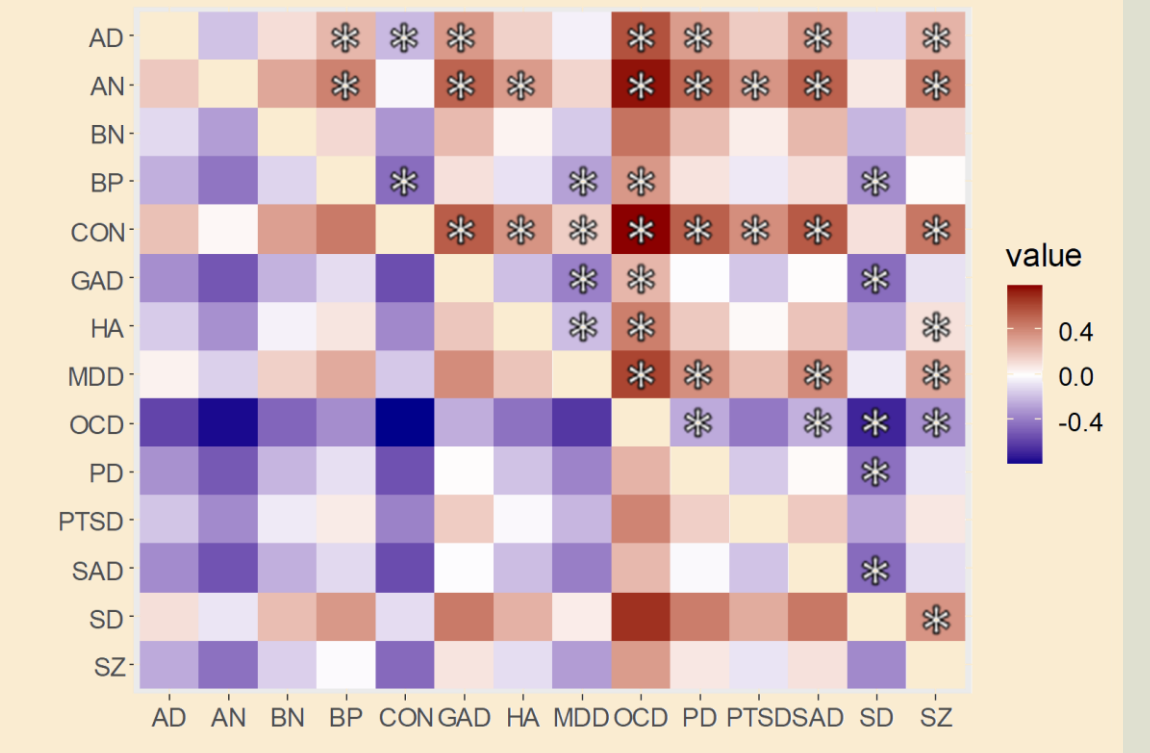
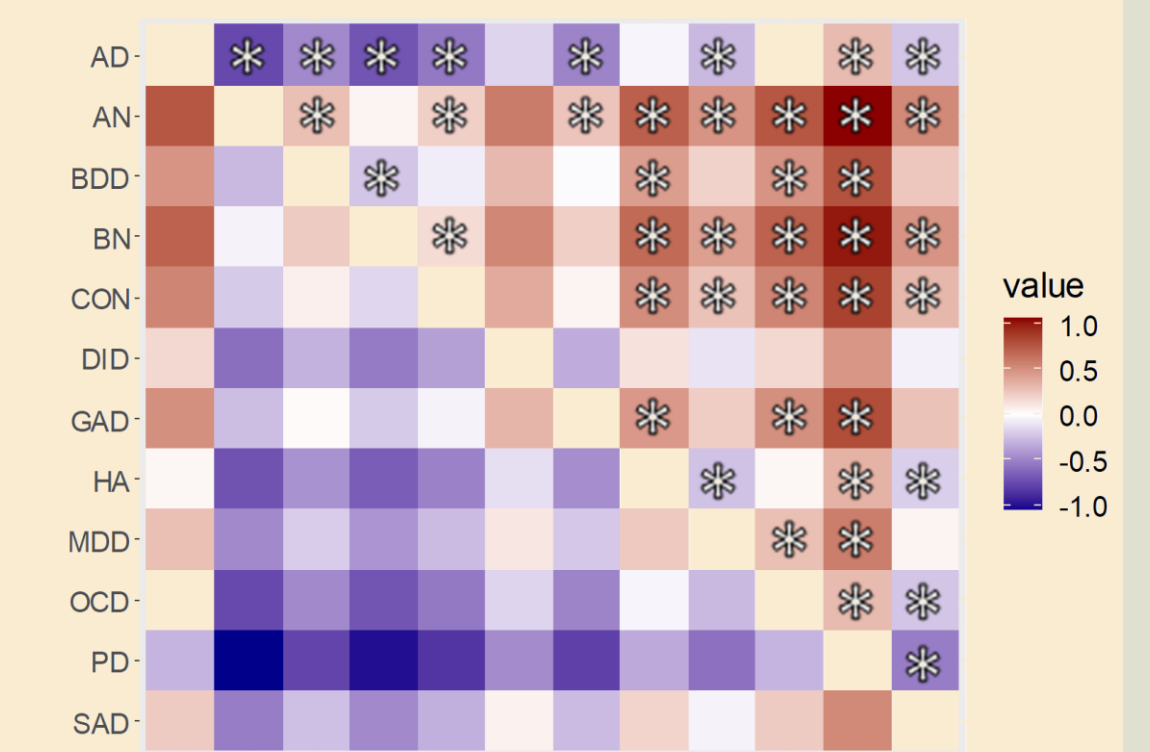
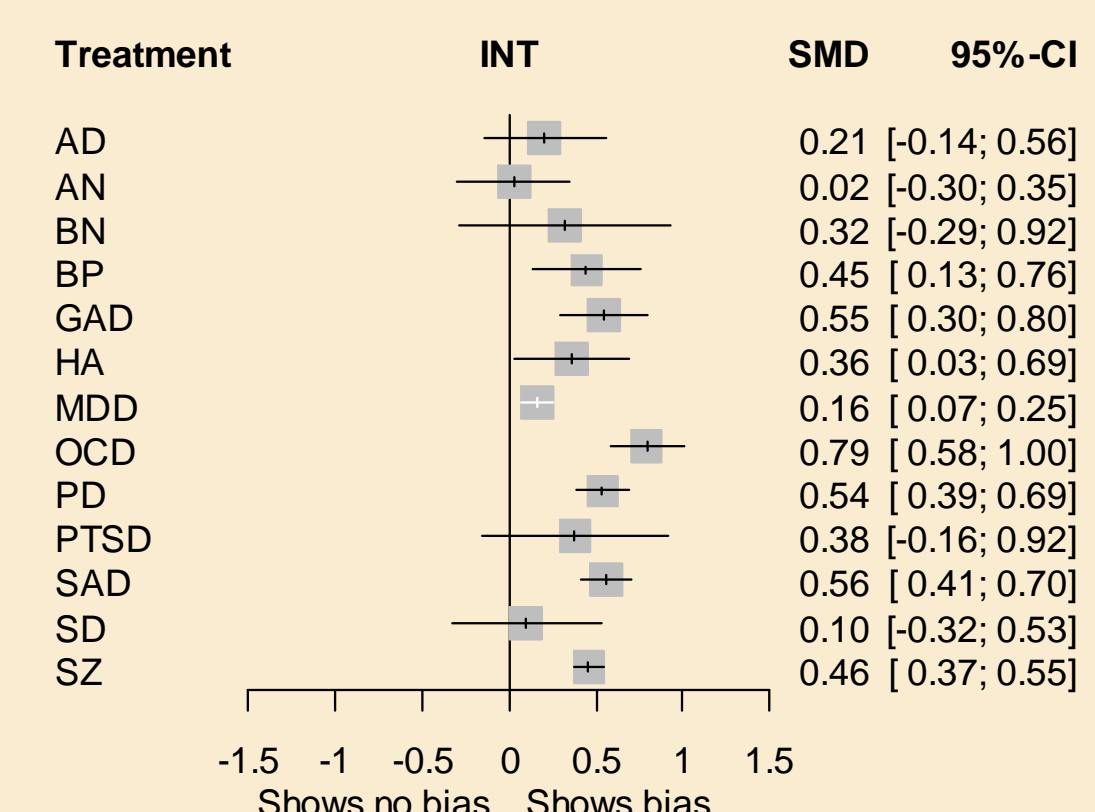
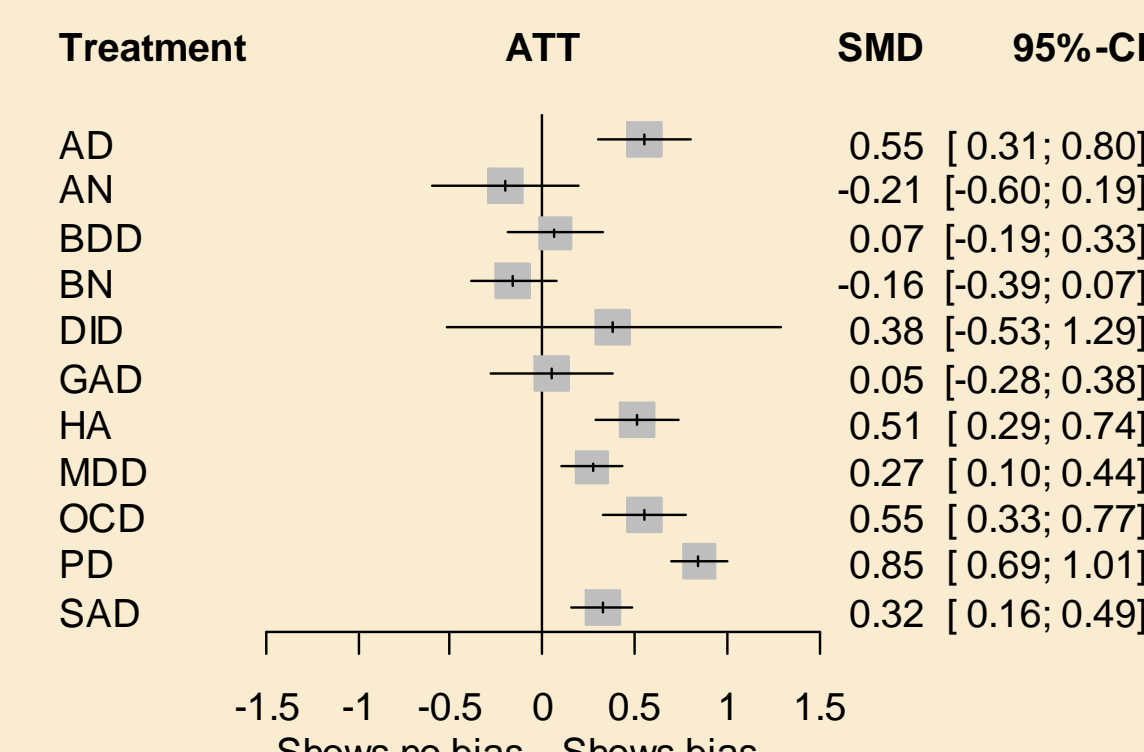
### ATTENTION BIASES



### INTERPRETATION BIASES



### Network Meta-Analyses



## DISCUSSION

### Traditional meta-analyses

- ❖ small effect ( $g = 0.32$ ) for higher bias severity in patients
- ❖ small effect ( $r = 0.19$ ) between biases (interpretation) and transdiagnostic symptoms (psychosis, emotional dysfunction)

### Network meta-analyses

- ❖ attention biases (panic and other anxiety disorders)
- ❖ interpretation biases (obsessive-compulsive and other anxiety disorders, schizophrenia-spectrum disorders).

→ The current findings support a **big “C” interpretation of transdiagnostic cognitive dysfunction in psychiatric disorders, extending to cognitive biases and transdiagnostic symptom dimensions**, particularly emotional dysfunction and psychosis symptoms.

→ While the presence of cognitive biases is transdiagnostic, bias severity differs across diagnoses, as for traditional neurocognitive deficits.

### References

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RESEARCH GROUP



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