

Introduction:

- In a therapeutic setting, the most challenging situation for individuals with borderline personality is experiencing a depressed mood and internalizing their negative experiences, emotions, and thoughts (1).
- Therefore, it is reasonable to expect that individuals with borderline personality may drop out of therapy (2)
- Neuropsychological studies demonstrate that individuals with borderline personality exhibit impairments in executive domains, including cognitive planning, sustained attention, and working memory (3).
- A meta-analysis involving 25,243 U.S. college students found that attachment insecurities increased from 51.02% in 1988 to 58% in 2011 (4).
- A recent meta-analysis showed a positive association between attachment insecurities and borderline personality traits (5)
- borderline personality traits, similar to attachment insecurities, have been shown to impair executive functions (6).

Gaps in the literature:

- The relationship between attachment insecurities and working memory has primarily been investigated in the context of processing attachment-related and non-related words.
- Individuals with attachment anxiety performed worse than securely attached participants on the emotional n-back task, particularly when negative attachment-related stimuli were involved (7).
- While attachment anxiety was linked to self-reported memory impairments, it was not associated with objectively measured deficits in working memory performance (8).
- Although self-deception and impression management are known to influence executive neural pathways by increasing cognitive load (9), the underlying mechanisms remain unclear.
- Moreover, majority of studies in the literature explored subjective executive dysfunction rather than objective memory task.

Hypothesis:

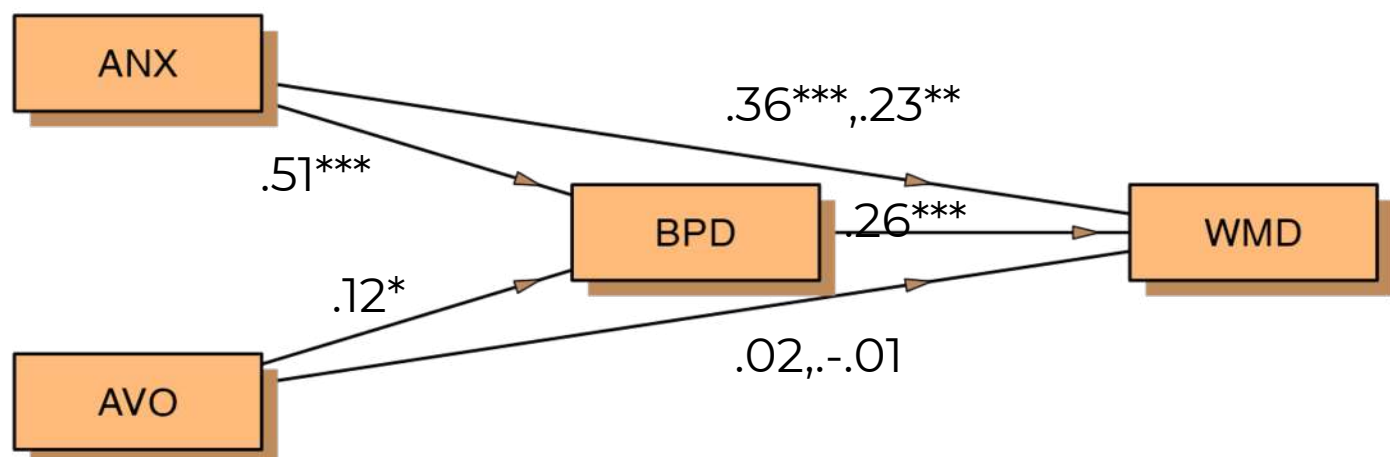
- We propose that individuals with attachment anxiety who exhibit higher borderline personality traits do not pay attention to novel stimuli due to hyperactivating strategies. This may result from the amygdala's hyperactive influence on the prefrontal cortex, which reduces working memory capacity.
- The relationship between attachment avoidance and working memory is more complex and requires further investigation, including the analysis of additional variables such as objectification and dissociation.

| | | |
|--|----------------------------------|--|
| Attachment Anxiety & Working Memory Deficits | 1. Attachment Anxiety | • Leads to Hyperactivating Strategies (e.g., heightened emotional responses, rumination) |
| | 2. Hyperactivating Strategies | • Causes Amygdala Hyperactivity |
| | 3. Amygdala Hyperactivity | • Reduces Prefrontal Cortex Regulation |
| | 4. Reduced Prefrontal Regulation | • Results in Working Memory Deficits |
| Attachment Avoidance & Working Memory Complexity | 1. Attachment Avoidance | • Mediated by Objectification & Dissociation |
| | 2. Deactivating Strategies | • Leads to Inconsistent Working Memory Performance |

Study 1: Underlying Mechanism



Results 1c



| | | 95% C.I. (a) | |
|-----------------|-----|--------------|-------|
| | β | Lower | Upper |
| ANX ⇒ BPD ⇒ WMD | .13 | .04 | .12 |
| AVO ⇒ BPD ⇒ WMD | .03 | .001 | .05 |

Conclusion

- We found that both attachment anxiety and avoidance are positively related to WMD.
- The relationship between attachment anxiety and WMD remained significant after controlling for personality traits.
- BPD fully mediated the relationship between attachment avoidance and WMD, while it partially mediated the relationship between attachment anxiety and WMD

Study 2: Replicated Study



Method

N = 336 Polish students (298 women 38 men, M_{age} = 26.70, SD = 8.86).

Independent Variables

- Attachment anxiety (M = 16.60 SD = 6.28) and attachment avoidance (M = 32.30 SD = 6.87)

Social Desirability Bias:

- Self-Deception (M = 32.5, SD = 7.09)
- Impression Management (M = 35.09, SD = 6.49)

Mediator:

- Borderline Personality (M = 112 SD = 34.50)

Dependent Variable

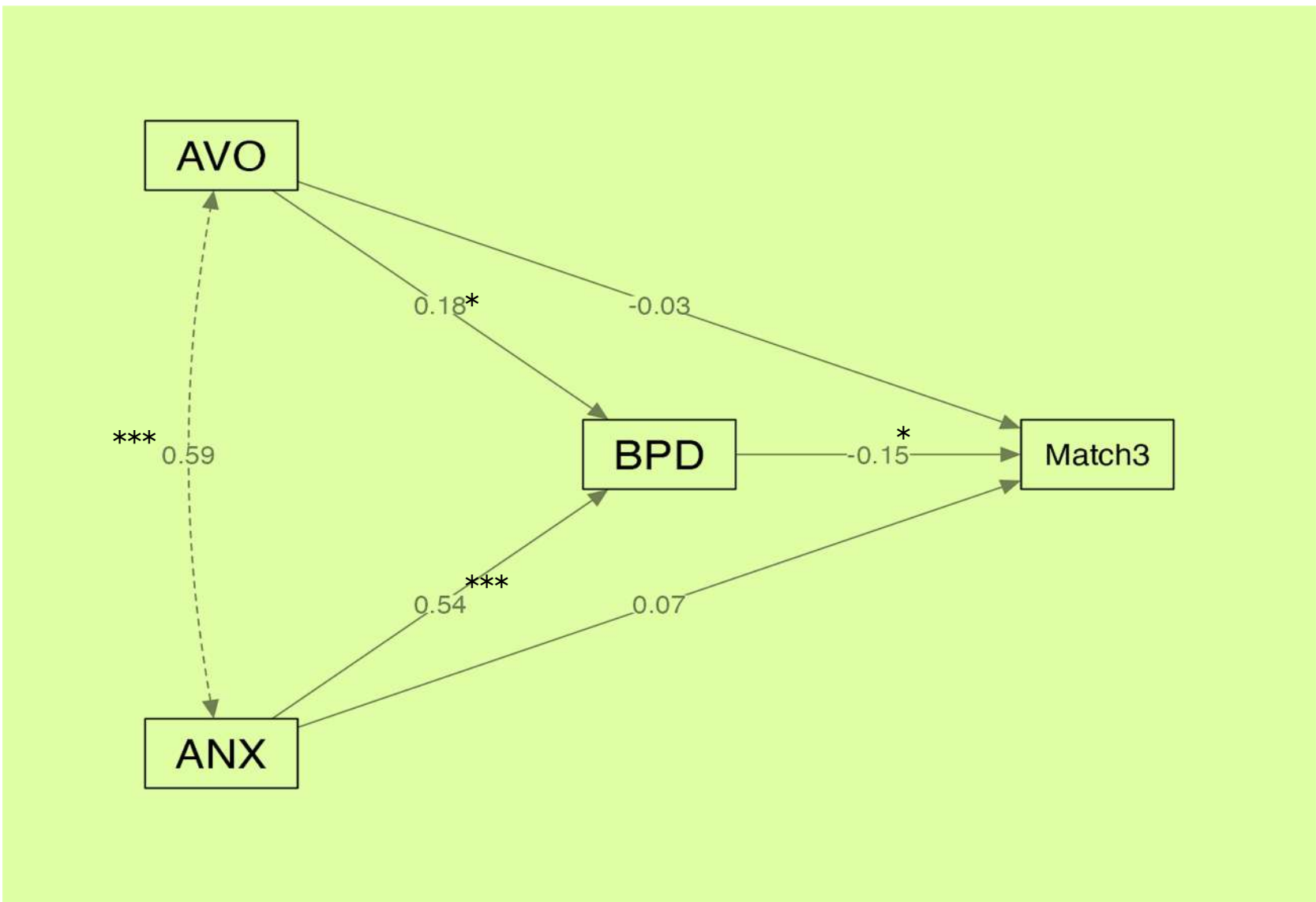
- 2-back task(M = 10.40 SD = 5.30)



Results 2a

| | | β 95% Confidence Intervals | | | |
|-------|------|----------------------------|-------|-------|------|
| Names | β | SE | Lower | Upper | p |
| ANX | -.08 | .04 | -.22 | .07 | .315 |
| AVO | -.07 | .03 | -.21 | .06 | .279 |
| SD | -.18 | .03 | -.31 | -.04 | .010 |
| IM | .08 | .03 | -.04 | .20 | .176 |

Results 2b



| | | 95% C.I. (a) | |
|-----------------|------|--------------|-------|
| | β | Lower | Upper |
| ANX ⇒ BPD ⇒ WMD | -.08 | -.02 | -.13 |
| AVO ⇒ BPD ⇒ WMD | -.03 | -.04 | -.01 |

Conclusion

- We found that self-deception enhancement impairs objective working memory after controlling for attachment insecurities and impression management.
- BPD fully mediated the relationship between attachment insecurities and performance on an objective working memory task.
- The mediation effect was stronger for higher levels of attachment anxiety than for attachment avoidance.

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Discussion

- Our findings highlight the significant **role of attachment insecurities in subjective and objective working memory deficits**.
- Borderline personality traits** could be key to mitigating these effects, particularly for individuals with **high attachment anxiety**.
- Social Desirability** impacts **objective working memory**.
- Interventions should focus on **enhancing emotional regulation and reducing self-deception tendencies** to improve cognitive performance.
- Future research should explore targeted therapies that integrate **attachment-based and cognitive interventions** for individuals at risk.

