



The Relationship Between Executive Functions and Rumination on Internalizing and Externalizing Symptoms in Children



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Introduction

- Identifying risk factors for childhood depression and aggression is important given their association with adverse outcomes.
- Rumination, or the tendency to mentally perseverate on negative feelings, has been identified as a transdiagnostic cognitive vulnerability underlying risk for psychopathology (Harmon, Stephens, Repper, Driscoll, & Kistner, 2017; Rood, Roelofs, Bogels, Nolen-Hoeksema, & Schouten, 2009; Smith, Stephens, Repper, & Kistner, 2016).
 - Yet, questions remain regarding underlying mechanisms related to rumination risk.
- Emerging literature implicates executive dysfunction as a possible mechanism underlying rumination risk, including deficits of working memory, inhibitory control, and set shifting (e.g., Whitmer & Gotlib, 2013).
- Similar deficits have been implicated in risk for depression and aggression (e.g., Snyder, 2013; Wagner et al., 2015).
- Only a few studies have examined how executive dysfunction and rumination relate to each other and their shared risk for psychopathology in children (Wagner et al., 2015).

Present Study

The current study examined the direct and indirect relationship between rumination, executive functioning (EF), depression, and aggression.

Methods

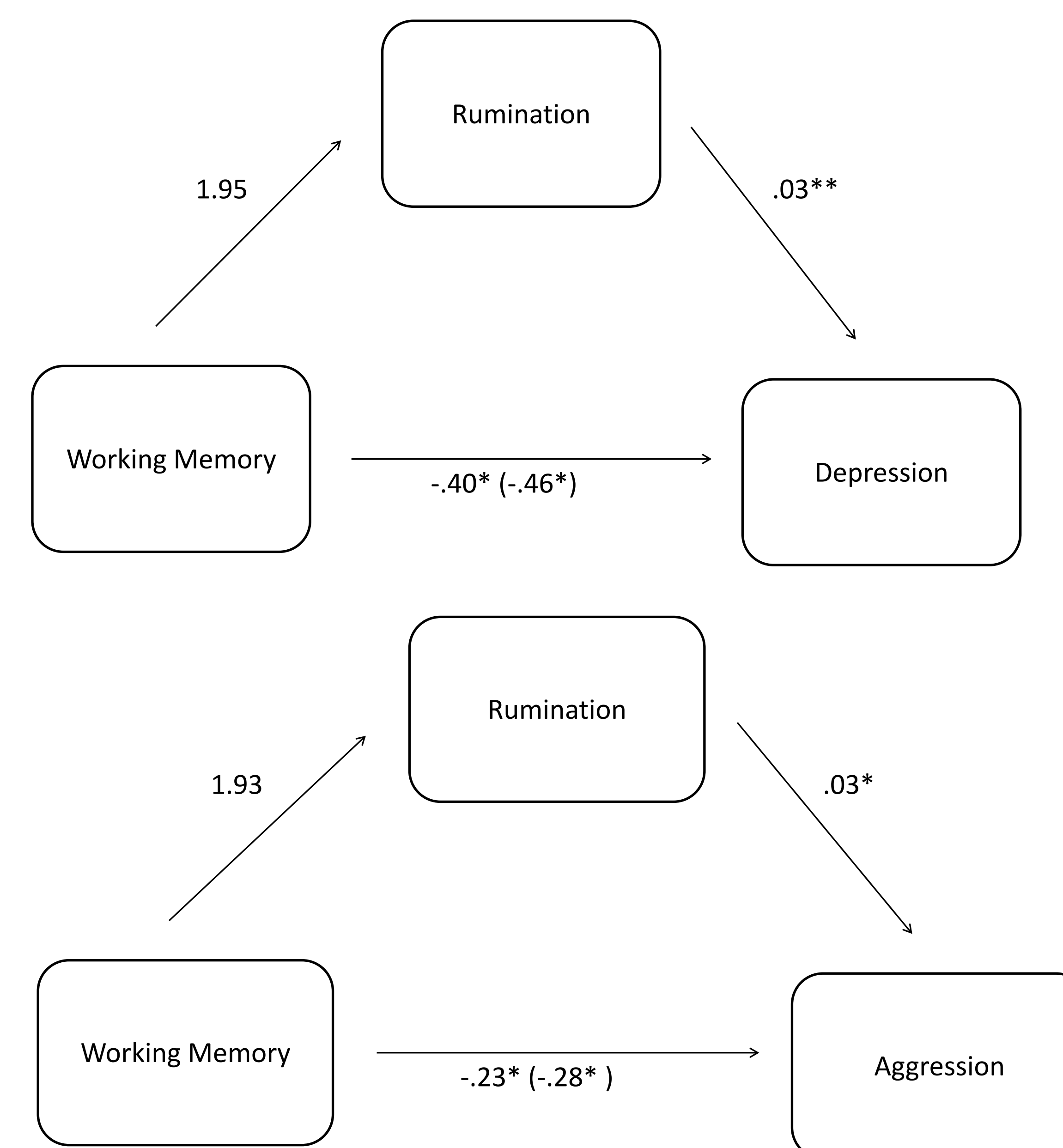
Sample

- N = 41
- Clinically referred
- 8-13 years old (mean age = 10)
- 56% male

Measures/Tasks	Construct Assessed
Children's Anger Rumination Scale	Rumination
Children's Depression Inventory-2	Depression
Behavior Assessment System for Children-2	Conduct Problems & Depression
Keep Track & Letter Updating	Working Memory
Stop Signal & Go/No-Go	Inhibitory Control
Global-Local	Set-Shifting

Results

- Working memory predicted depressive ($b = -.46$, $SE = .15$, $p < .05$) and aggressive symptoms ($b = -.28$, $SE = .15$, $p < .05$) with poorer working memory performance predicting greater symptoms.
 - Inhibitory control and set shifting were unrelated to depressive and aggressive symptoms.
- Rumination predicted depressive ($b = .03$, $SE = .01$, $p < .01$) and aggressive symptoms ($b = .03$, $SE = .01$, $p < .05$) with higher rumination predicting greater symptoms.
- Working memory, inhibitory control, and set shifting were unrelated to rumination.
- Rumination did not mediate the relationship between executive functioning and depressive ($b = .06$, $SE = .08$, 95% CI = $-.07$, $.25$) or aggressive symptoms ($b = .05$, $SE = .06$, 95% CI = $-.04$, $.22$).



* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

- EF and rumination are both independent predictors of depression and aggression risk.
- EF and rumination are unrelated.
- Collectively, these findings suggest that both executive functioning and rumination tendencies are important targets for assessment and treatment of psychopathology in children.

References

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