How financial scarcity contributes to executive function

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Introduction

Financial scarcity is stressful[a], and stress impairs executive function (EF)[b].
This study asked whether scarcity in adulthood contributes to greater challenges with individual EFs through greater stress, and whether childhood poverty changes associations between stress and EFs.

Methods

N=249 female Amazon Mechanical Turk workers

Mean age: 37 years; 70% non-Hispanic white

MEASURES

- **Financial scarcity** - Perceived inability to meet basic needs in past 3mos (α=.63)
- **Self-reported stress** - Cohen's perceived stress scale[a] in past 3 months (4 items)
- **EF** - 75-item Behavior Rating Inventory of Executive Function (BRIEF)[d] composites:
  - Behavioral regulation (α=.90)
  - Emotional regulation (α=.95)
  - Metacognition (α=.97)
- **Childhood poverty** – self-reported poverty history during childhood

  Subgroup 1: No poverty before age 6: 36%

  Subgroup 2: Poverty before age 6: 54%

  Subgroup 3: Poverty 6-18 only: 10%

Path Analysis

We ran a path analysis to test a mediation model in the overall sample, as well as both subgroups.

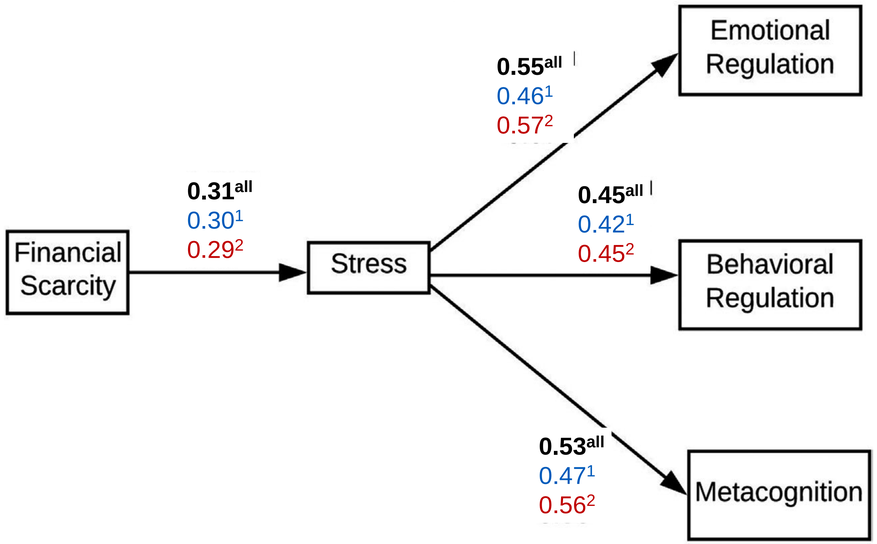
Model fit was very good (RMSEA = 0.000; CFI = 1.000; TLI = 1.000 for study sample, subgroup 1, and subgroup 2).

All hypothesized direct and indirect paths between financial scarcity and the EF composites were statistically significant at $p < .05$; see Figure 1.

Results: Direct Paths, Figure 1

Path model for **entire sample (N = 249);** subgroup 1/no childhood poverty (N = 90); subgroup 2/poverty age 0–6 (N = 135).

Standardized betas for significant direct paths are shown. Model fit differed by subgroup with early poverty changing the association between stress and emotional regulation, and stress and behavioral regulation (but not stress and metacognition).



Results: Indirect Paths

Standardized beta coefficients for the indirect paths from financial scarcity to emotional regulation, scarcity to behavioral regulation, and scarcity to metacognition were 0.17, 0.14, and 0.17 for all, 0.14, 0.13, and 0.14 for subgroup 1, and 0.16, 0.13, and 0.16 for subgroup 2, respectively. $p < .05$ for all direct and indirect paths.

Conclusion

Among women who experienced poverty in their early childhood years (before age 6):

- Stress was more strongly predictive of challenges with both emotional regulation and behavioral regulation, compared to women who reported no early childhood poverty.
- In contrast, there were no differences between the two subgroups in the pathway from stress to metacognition, $\chi 2$ (1, N = 225) = 2.46, p = .117.

References

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