DISENTANGLING THE RELATIONSHIP BETWEEN CAREGIVER STRESS AND CHILD EXECUTIVE FUNCTION

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Introduction

- Parents experience a variety of stressors.
- One potential stressor for parents is their child's behavior
- This is especially the case for parents of children with low levels of executive function (EF).
- Low EF may be associated with stressful behaviors such as forgetfulness, difficulty with emotion regulation, and difficulty resisting impulses.
- Stress experienced by parents may also be related to other factors, such as chronic stress, trait worry, or perceived stress.
- This study aimed to determine whether low child EF is more strongly correlated to parenting stress (stress directly related to the parent-child system) than other types of stress, in order to determine the best way to support parents of children with low EF.

Background

Child Executive function

Executive function is set of cognitive processes that undergo significant development during ages 3-5. EF impacts a child's ability to focus, complete tasks, and regulate emotions. We focused on two primary EF processes:

- **Attention shift:** ability to shift between focusing on different subjects in order to carry out desired actions
- **Working memory:** ability to temporarily store information, especially in the face of interference

Types of stress experienced by parents

Parenting stress: stress that is directly related to the parent-child system

- Strong evidence related to low child EF[1]

Chronic stress: stress caused by common life conditions like financial issues, work life, and/or home life

- Some evidence related to low child EF[2]

Trait worry: personality disposition tending to have repetitive negative thoughts that may be difficult to remove from the mind

- No evidence found about relation to child EF

Perceived stress: how sensitive one is to perceiving that their life is stressful

- Little to no evidence about relation to child EF[3]

Methods

Hypothesis 1: When child EF is low, parenting stress will be high.
Hypothesis 2: When child EF is low, chronic stress will be high, but not a high as parenting stress.
Hypothesis 3: The relationship between child EF and worry and child EF and perceived stress will not be significant.

Participants: We recruited a convenience sample of caregiver-child dyads from the Eugene/Springfield area. Children were ages 36-84 months.

Procedures: Participants came to the UO campus where parents completed self-report questionnaires and children completed EF measures on a Microsoft tablet.

Questionnaires:

- Parenting Stress Index (PSI)[4]

Ex. "Since having a child, I feel that I am almost never able to do things that I like to do"

- Wheaton Chronic Stress (WCS)[5]

Ex. "Your job often leaves you feeling both mentally and physically tired"

- Penn State Worry Questionnaire (PSWQ)[6]

Ex. "I know I should not worry about things, but I just cannot help it"

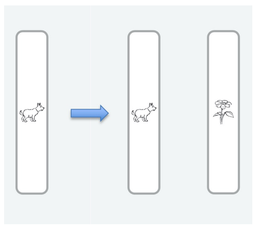
- Perceived Stress Scale (PSS)[7]

Ex. In the last month, how often have you found that you could not cope with all the things you had to do"

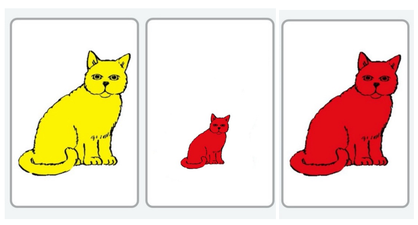
EF Measure:

EF Touch Battery[8]

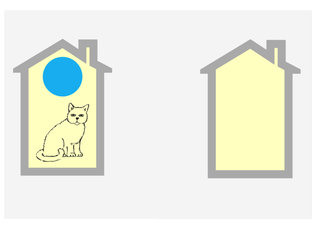
Tasks: Pick the Picture, Something's the Same, Houses



Pick the Picture Example Stimuli
Measures working memory. Children were shown a picture (e.g., the dog), then shown several more pictures and asked to pick which one was the same as the first (Willoughby et al., 2010).



Something's the Same Example Stimuli
Measures attention shift. Children were shown two pictures that contained the same content (e.g., both cats). Then, they were shown a picture that was the same as the previous images on a different dimension (either color or size). The child picked which of the original pictures was the same as the new one on the dimension of color (e.g., the small red cat; Willoughby et al., 2010).



Houses Example Stimuli
Measures working memory. Children were shown an animal and colored dot within the outline of a house (e.g., cat; blue dot). Then, they were shown an empty outline and asked to recall what animal lived in the house (Willoughby et al., 2010).

Analytic Plan:

Regressions of each parent stress measure on child executive function were completed using Jamovi version 2.3.18.0. We corrected for multiple tests by using a significance value of $p < .012$).

Results

Hypothesis 1: Unsupported

- Parenting stress was not related to child EF.

Hypothesis 2: Unsupported

- Chronic stress was not related to child EF.

Hypothesis 3: Supported

- Trait worry and perceived stress were not related to child EF.

Measure	R
PSI	0.03
WCS	0.11
PSWQ	0.10
PSS	0.04

Discussion

- The results provide insight into the best ways to support parents of children with low EF.
- Knowing that parenting stress may be unrelated to child EF may prevent researchers from unproductively targeting this variable when developing parenting programs and other resources for this population.
- Parents of children with low EF may benefit from other forms of parenting support; however, based on these results, stress reduction as the primary focus of intervention may not be warranted.

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