

The association between child ADHD symptoms and changes in parental involvement in kindergarten children's learning during COVID-19

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Introduction

- The coronavirus disease 2019 (COVID-19) has resulted in school closures and education continuing under the supervision and instruction of parents (UNESCO, 2020), putting parents at a more proximal position of influence on their children's development.
- COVID-19 has put more stress on families, and parents have reported that the stress from financial strain and social isolation has impacted their parenting, including parent reports of increased yelling and disciplinary practices (Lee & Ward, 2020).
- Family stress and hardship can lead to increases in child problem behaviors (e.g., Conger et al., 1994), and one Canadian survey found that 59% of parents reported behavioral changes in their children since school closures, including outburst and irritability (Children's Mental Health Ontario, 2020).
- Crises can cause changes in parenting practices, resulting in adverse child outcomes such as increased problem behaviors (Conger et al., 1994).
- Parent involvement in children's education is a particular set of parenting beliefs and behaviors that are associated with a range of child outcomes (Fan & Chen, 2001).
- Parental involvement in children's learnings constitutes parent's engagement beliefs and behaviors concerning their child's learning and education (Hoover-Dempsey & Sandler, 2005).
- Parents of children with ADHD have more stress and poorer parental involvement, which then can increase child ADHD symptoms (Fantuzzo et al., 2004; Rogers et al., 2009b).

Research Questions

- This study examined changes to parents' perceptions of their involvement because of COVID-19 and examined whether child ADHD symptoms moderate changes in involvement beliefs or behaviors. The following research questions were examined:
 1. Have parent perceptions of child ADHD symptoms changed from before COVID-19 to during remote learning?
 2. Did parent involvement (motivational beliefs and involvement behaviors) change from before COVID-19 to during remote learning?
 3. Did child ADHD or child gender moderate the change in parent involvement?

Method

Participants

- The parents were recruited from 32 kindergarten classrooms across six schools from a large city in Eastern Canada. Students were 4-6 years old.

Procedures

- Data were collected prior to COVID-19 in December 2019 and January 2020 and again several months into remote learning in May and June of 2020.

Analyses

- A repeated measures general linear model was analyzed to examine within-person changes in parents' rating of child inattention and hyperactivity/impulsivity from winter (pre-pandemic) to spring (during the pandemic/remote learning). ADHD symptoms were examined separately.
- Child symptoms of inattention and hyperactivity/impulsivity, child gender, and family income were examined as moderators of changes in parent involvement (i.e., Self-Efficacy, Role Construction, Time and Energy, Knowledge and Skill, and Home-Based Involvement).

Measures

- Parent Beliefs About Involvement. Parents' beliefs about involvement in their children's education was measured with the Parent Involvement Project Questionnaire (PIPQ; Hoover-Dempsey et al., 2005).
- Home-Based Involvement. The Family Involvement Questionnaire (FIQ; Fantuzzo et al., 2000) Home-Based Involvement subscale was used to measure parents' educational involvement.
- Child ADHD symptoms. The ADHD Rating Scale-5 for Children and Adolescents, Home Version (ADHD RS-5; DuPaul et al., 2016) was used to measure children's ADHD symptom level.

Results

Main Effects

- There was a significant main effect, or within-person change from winter to spring for parent-reported child Inattention and Hyperactivity/Impulsivity (df = 107).

| Child ADHD Symptoms Within-person Effects | F | p value | Eta Squared |
|---|------|---------|-------------|
| Child Inattention Symptoms | 8.49 | .00* | .07 |
| Child Hyperactivity/Impulsivity Symptoms | 5.38 | .02* | .05 |

- There were no changes to Parent Involvement beliefs (i.e., Self-Efficacy, Role Construction, Time and Energy, Knowledge and Skill) or home-based involvement from winter to spring.

Moderation

- The separate models run for each parent involvement variable (i.e., Self-Efficacy, Role Construction, Time and Energy, Knowledge and Skill) with each symptom of ADHD (i.e., inattention and hyperactivity/impulsivity) showed that gender moderated the parent involvement belief *Role Construction*.

Figure 1. Parental Role Construction for Boys and Girls from fall (pre-pandemic) to spring (during pandemic)



Discussion

- Parent-rated child ADHD symptoms of inattention and hyperactivity/impulsivity both increased from winter to spring. This finding may be due to changes in parent perception or changes to child behavior.
- There were no within-person changes in parental involvement beliefs and behaviors. This finding may be due to the attributes of the sample (i.e., young children, high income, White) or when the data were collected (just a few months into remote learning).
- Child gender moderated the change in parent Role Construction, which are parent beliefs about their role in their children's education. Parents of girls reported a decrease in their role construction beliefs.

Limitations

- The attributes of the sample present a limitation in the generalizability of the study. The sample was mainly White and represented higher income families. Further, this study examined parents of young children ages 4 to 6.

Implications

- Possible increases in child ADHD symptoms may be addressed with increased structure and consistency.
- For some families, involvement beliefs and behaviors remained stable at the beginning of remote learning.