

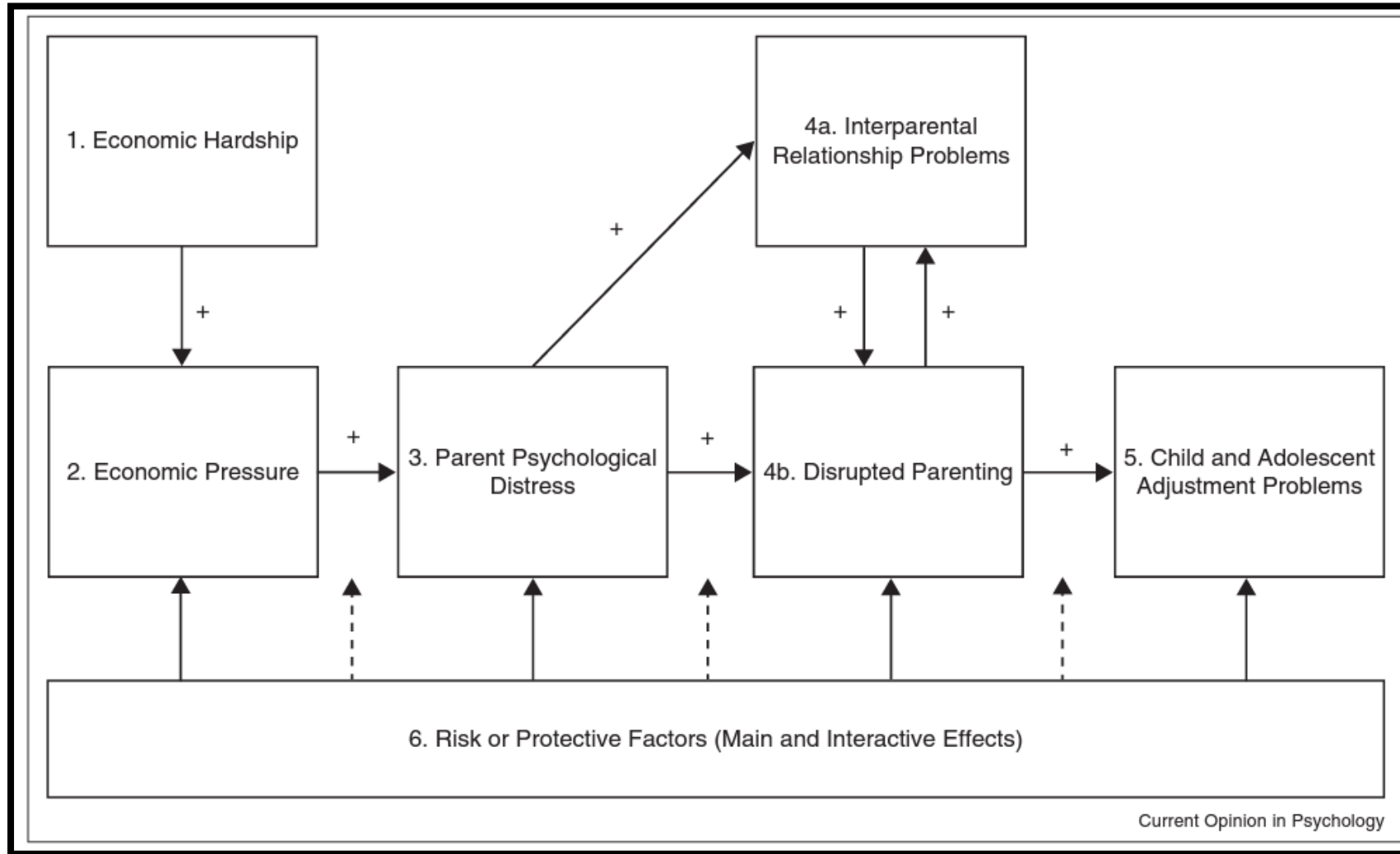
Family Cohesion and Children's Cognitive Development

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**CYFS Early Childhood Research
Summit**

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FAMILY STRESS MODEL



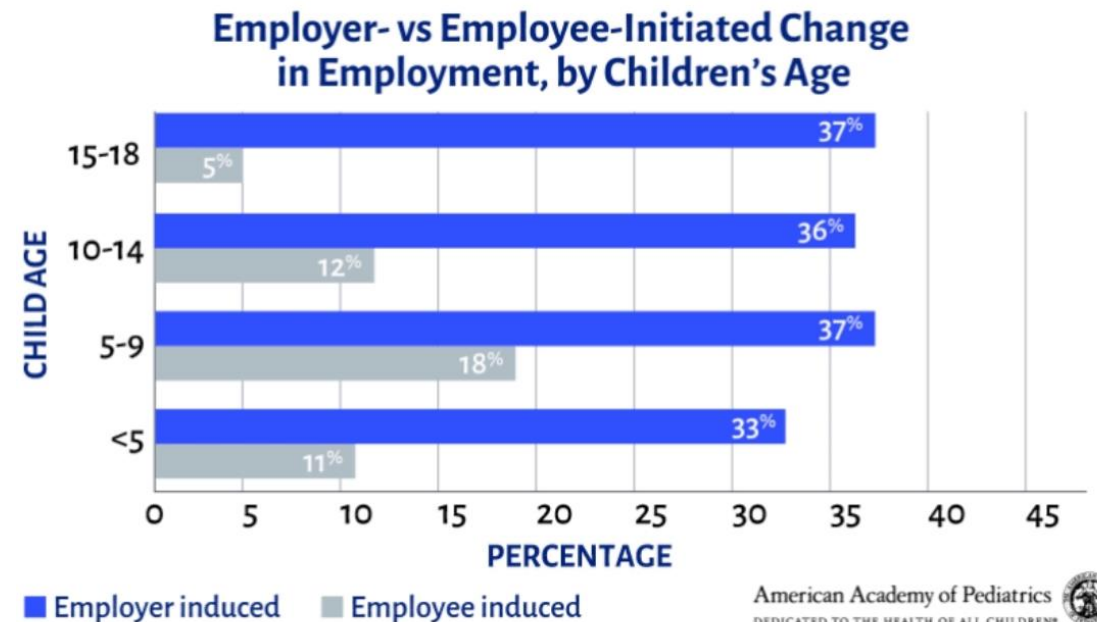
THE COVID-19 PANDEMIC AND ECONOMIC STRESS

The COVID-19 pandemic had significant financial impacts globally

- During April 2020, a record 23.1 million Americans filed for unemployment (Bureau of Labor Statistics, 2020)

Due to shelter-in-place orders, more than 124,000 schools in the U.S. were closed, affecting at least 55 million students (Education Week, 2020)

- Parents of young children were often forced to reduce their work to support children's education



PARENTS' PSYCHOLOGICAL CHALLENGES DURING THE PANDEMIC

Survey of U.S. parents in Spring 2020: levels of depression and stress were rated as “severe” and levels of anxiety were rated as “extremely severe” (Lamar et al., 2021)

Large increases in parents' depression and moderate increases in parents' anxiety for parents of elementary-age children from pre-pandemic to spring 2020 (Feinberg et al., 2022)

- **Families with lower levels of income were at risk for larger mental health deterioration**

Particularly important for parents with young school-age children

- **Parents with children showed the largest increases in mental health challenges during the pandemic, compared to other adults (Gadermann et al., 2021)**
- **Lower school support was associated with higher rates of parents' mental health challenges during the early months of the pandemic (McGoron et al., 2021)**

ECONOMIC STRESS, PARENTING, AND COGNITIVE DEVELOPMENT

Widespread evidence of income-based disparities in children's cognitive skills (e.g., Bradbury et al., 2018; Finch, 2019, Merz et al., 2019)

- **Racial and socioeconomic achievement gaps have widened during the pandemic (Fahle et al., 2024; Gee et al., 2023)**

Evidence that household income and maternal depression in early childhood work through parenting to impact children's self-regulation and cognitive skills in first grade (Nievar et al., 2014)

FAMILY COHESION & RESILIENCE

Family cohesion – the level of close emotional connections shared between family members

Supports elementary-school children's behavioral and academic development

- **Family cohesion supported children's academic skills via learning-related behaviors in early elementary school (Niehues et al. 2021)**
- **Parent-child cohesion linked to academic achievement and self-esteem for children in upper elementary school (Wang et al., 2021)**

Projects against adversity for adolescents

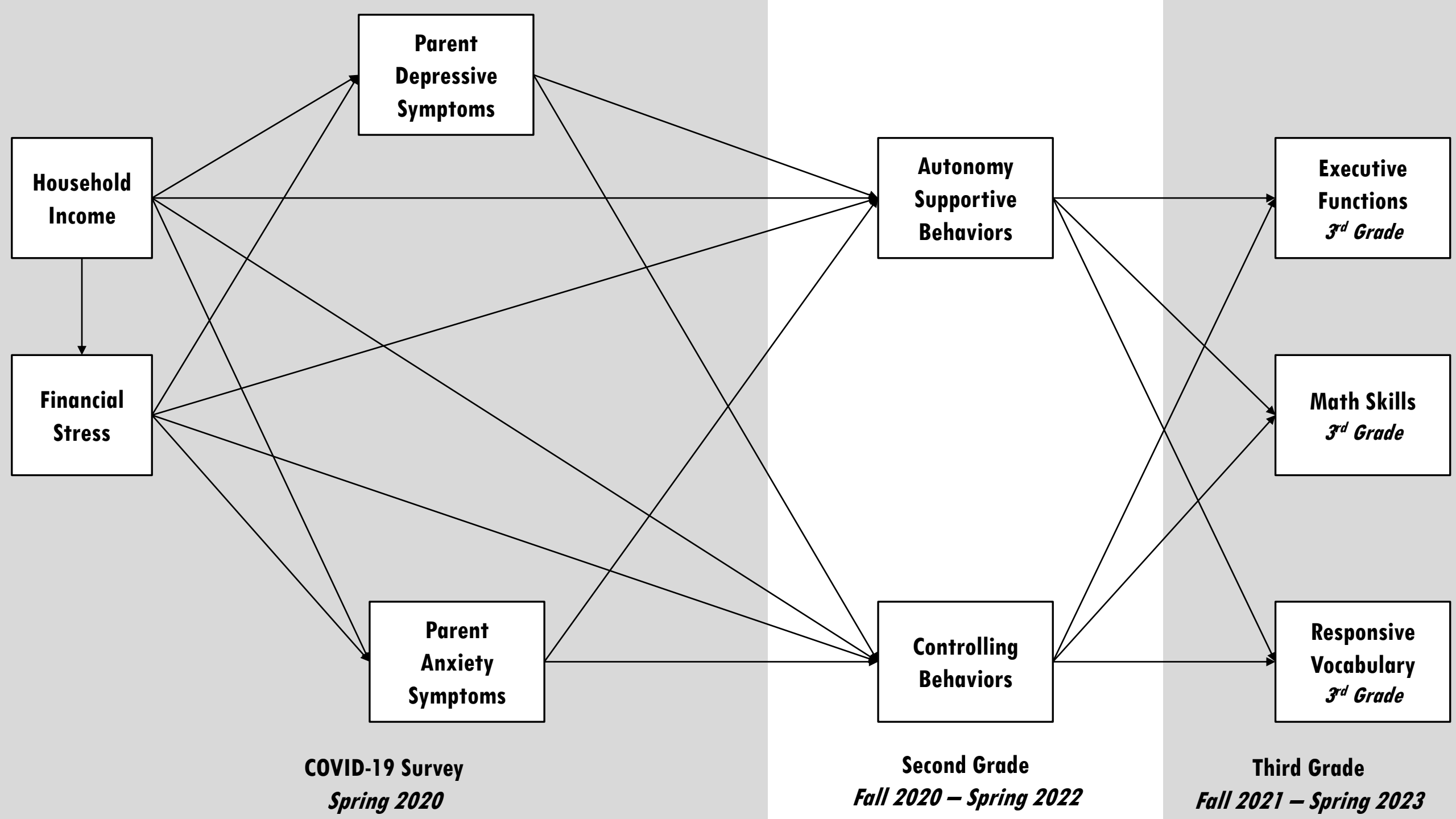
- **Family cohesion compensated against the negative link between violence exposure and mental health problems in adolescents (Goodrum et al., 2020)**
- **Family cohesion was a protective factor against the negative effects of bullying on adolescents' internalizing and externalizing behavioral problems (Shah et al., 2021)**

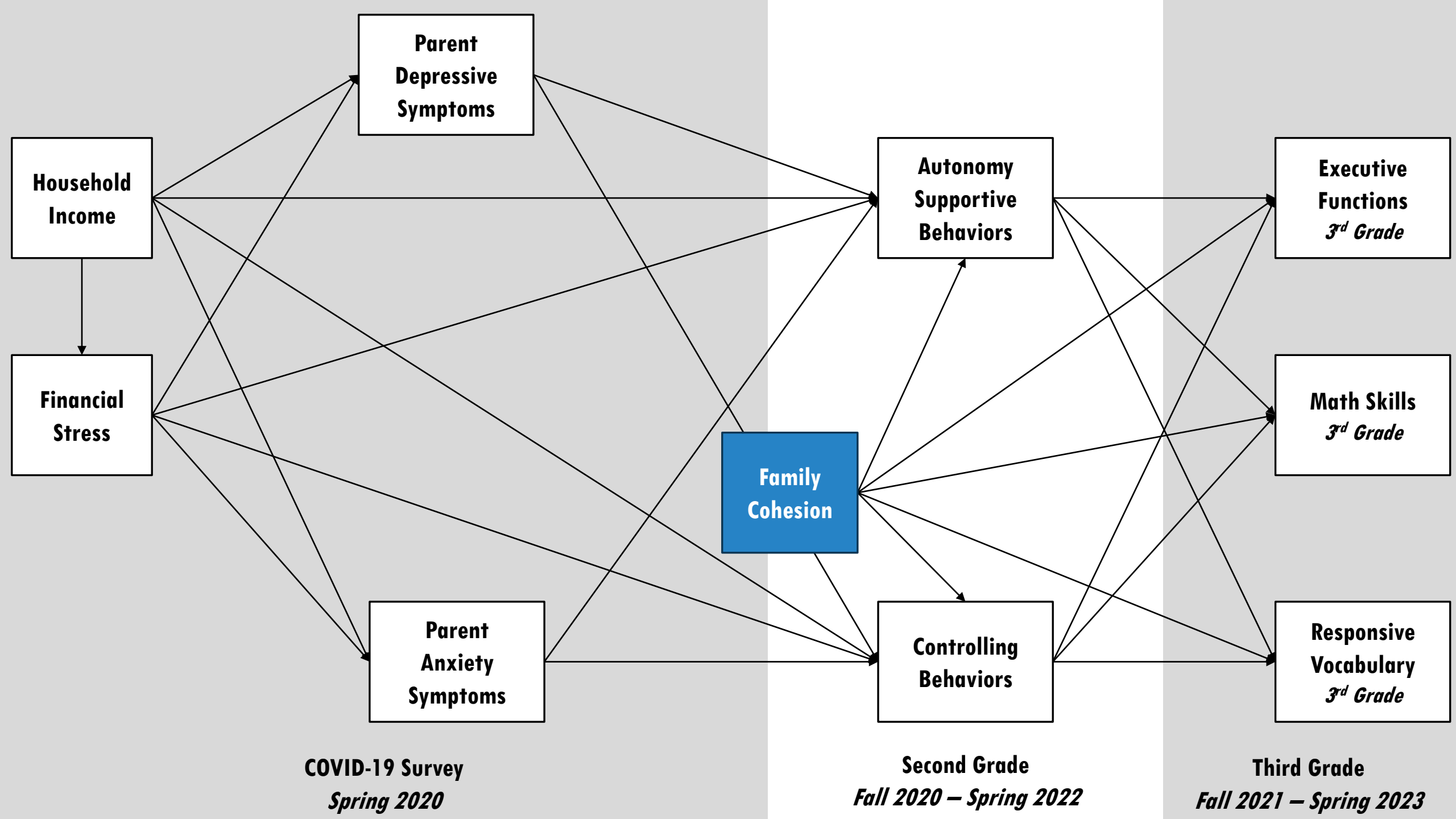
CURRENT STUDY

Pre-registered study leverages longitudinal data across the first three years of the pandemic to explore the role of economic hardship for parents' mental health, parenting practices, and children's cognitive development and whether family cohesion serves as a compensatory factor

- **Observational measures of parenting quality**
- **Early elementary-school period**
- **Direct assessments of children's cognitive skills (executive functions, math, and vocabulary)**







PARTICIPANTS

170 parent-child dyads – recruited in spring 2020 when children were in kindergarten and first grade

- **Followed into second grade ($M_{age} = 8.01$ years) and third grade ($M_{age} = 9.17$ years)**

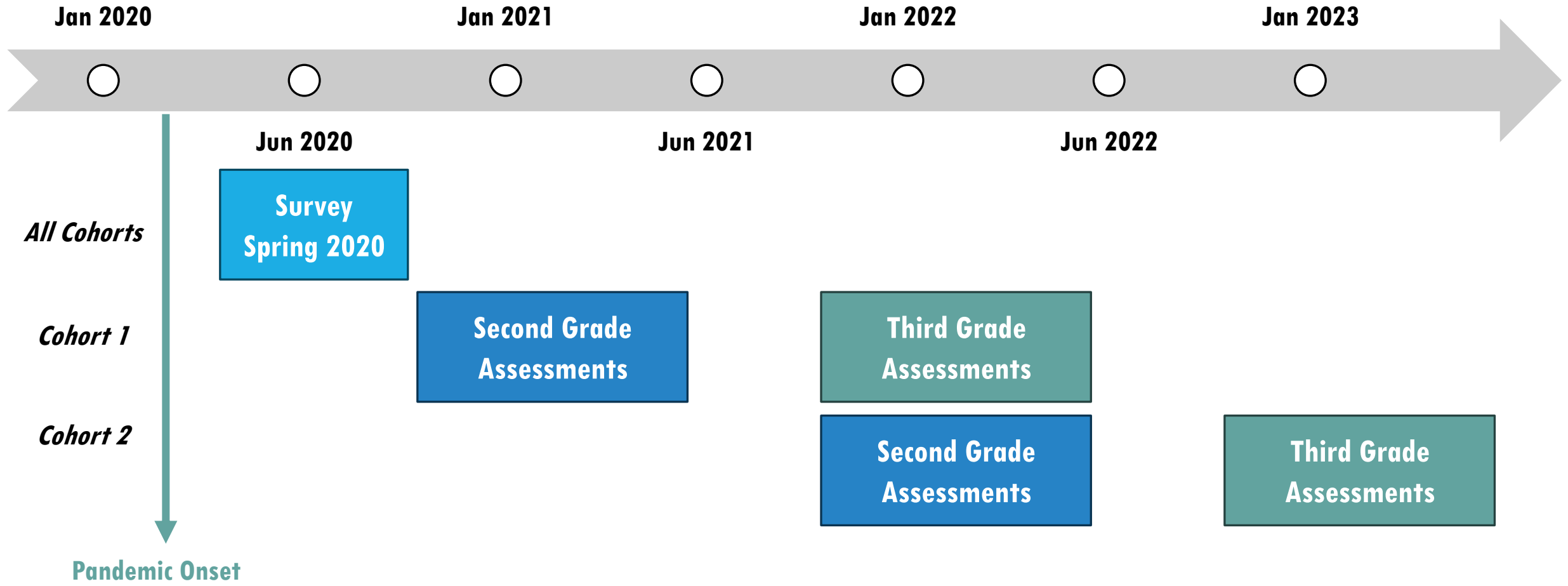
Children: Predominantly white (80%), 8% Hispanic/Latine, 2% Asian/Pacific Islander, 2% Black/African American, 7% other/multiracial

Socio-economically diverse

- **Household income: Median = \$65,000, 37% of families classified as low-income**
- **Primary caregiver: 12% HS degree or less, 28% some college, 36% college degree, 23% graduate degree**

49% of parents reported employment changes due to COVID-19 in spring 2020

STUDY TIMELINE



MEASURES

Economic Hardship: Household income


Economic Pressure: Financial stress (Financial Stress Index)

Parent Psychological Distress: Parent anxiety symptoms (PROMIS Emotional Distress-Anxiety) and depressive symptoms (Center for Epidemiological Studies-Depression Scale)


Family Cohesion: Parent report (Family Environment Scale)

Disrupted Parenting: Autonomy-supportive and controlling behaviors (observed during homework help task)

Child Adjustment: Executive functions (Digit Span Backwards, Listening Recall, Flanker, Dimensional Change Card Sort), math skills (Woodcock-Johnson Applied Problems subtest), responsive vocabulary (Peabody Picture Vocabulary Test)

Word Problems 

There are 19 pieces of fruit in a basket. There are 2 apples, 7 oranges, and 3 pears. The rest of them are bananas. Complete the problems below about the store, and feel free to use the space next to the text to show your work.



1. How many bananas are there?

7 10.0121

2. Compared to apples, how many more oranges are there?

5 $\begin{matrix} 0 & 7 \\ \times & 2 \\ \hline 14 \end{matrix} = 7$

3. If each apple costs 2 dimes and 2 nickels, how much did the apples in the basket cost altogether?

$20 + 10 = 30$ $30 \times 2 = 60$
300 $\begin{matrix} 60 & 9 \\ \hline 69 \end{matrix}$

AUTONOMY-SUPPORTIVE BEHAVIORS

Behavior	Definition	Example
Waits to be needed	Engaged in homework but not physically or verbally involved until asked	Parent listens while the child reads or watches while child writes an answer
Treats child as expert	Allows child to be in control or asks question that prompts child to take the lead	“Can you explain this to me?” “How can you solve this problem?”
Provides general feedback	Verbal or physical encouragement	“Good job” Parent gives child a high five
Provides information or asks question	Provides a necessary hint or strategy, asks a question to help the child	“How much is a nickel worth?” “Maybe you could read the instructions”
Explains the task at child’s level	Provides explanations based on the perspective of the child’s abilities	Parent breaks down the problem in some simplified manner
Checks answer at request	Responds to the child’s answer after child asks	“Yes, that is correct” after child asks about the answer

CONTROLLING BEHAVIORS

Behavior	Definition	Example
Leads the child	Provides assistance when not requested, reads prompt or question, directs child	“Here is what you need to do” Parent reads directions to child
Tells answer	Tells, points at, or writes the answer before child solves the problem	“The answer is ...”
Takes over	Takes the paper and pencil from children to write an answer or solve a problem	“Let me show you how to solve this problem”
Checks answer when not requested	Responds to the child’s answer despite children being confident or moving on to the next problem	“The answer to the previous problem is correct” without children asking for it to be checked

ANALYTIC PLAN

Path analyses using MPLUS

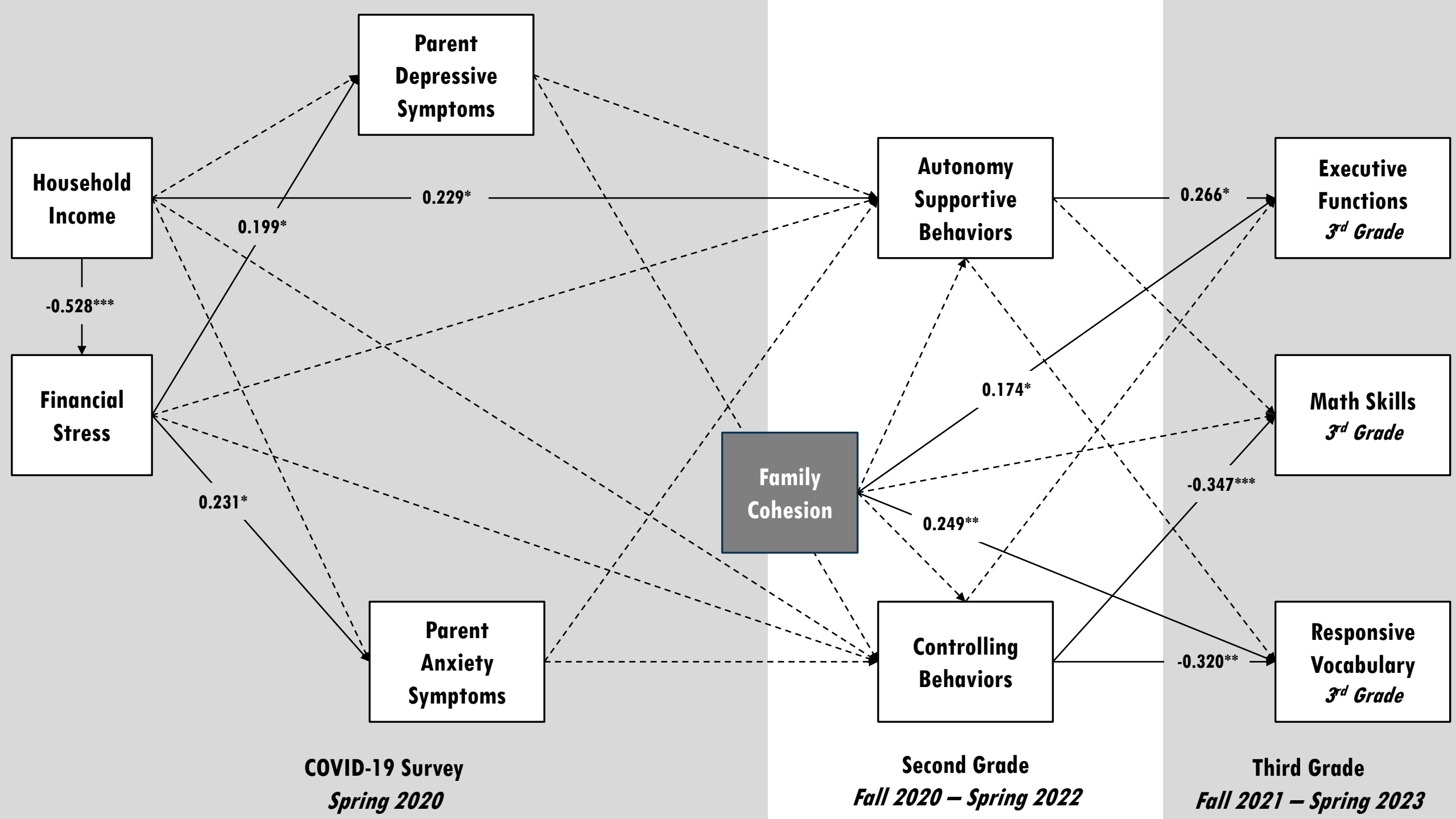
Strong global fit

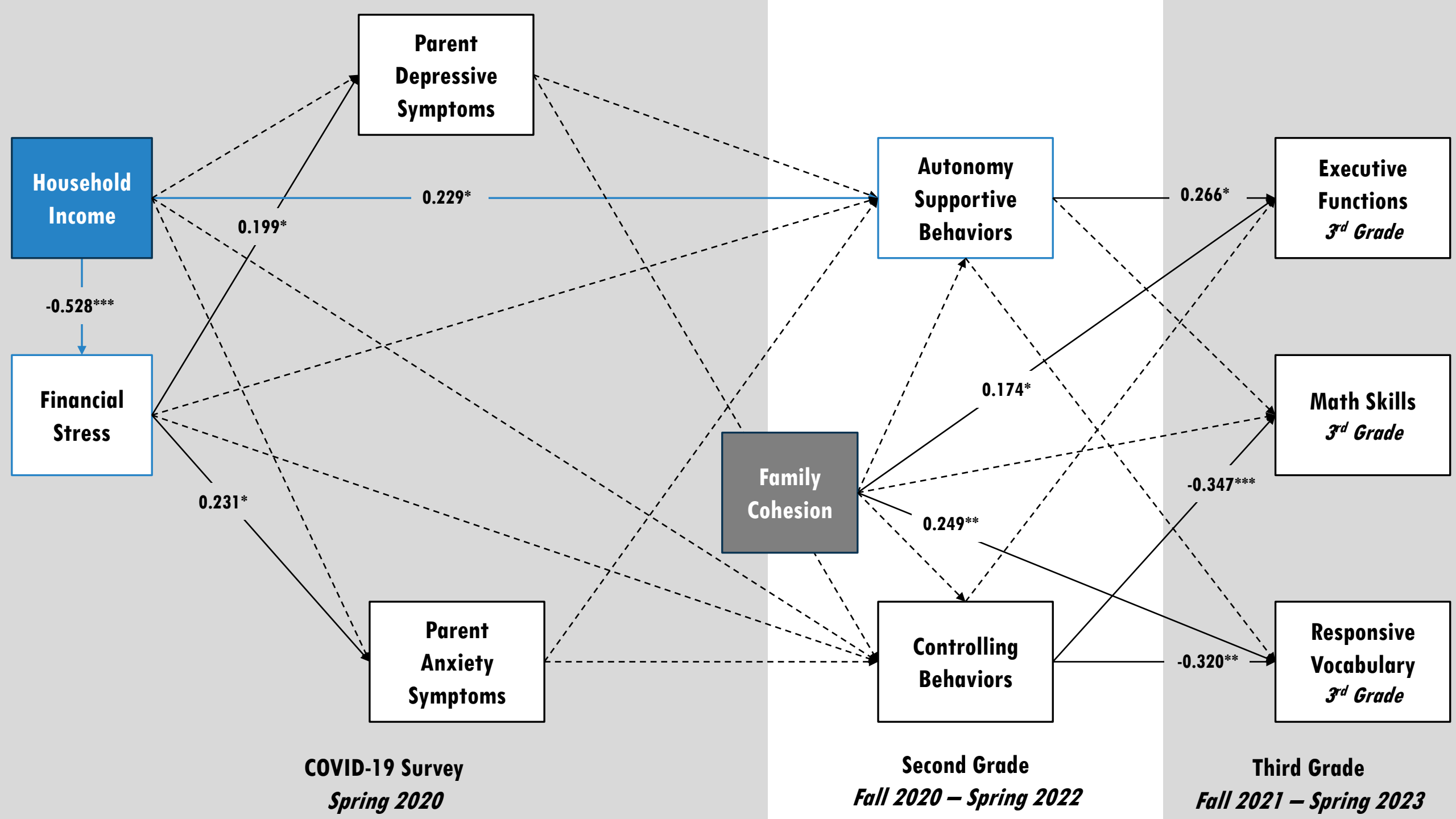
- **RMSEA = 0.046, 90% CI = [0.018, 0.070], CFI = 0.962, SRMR = 0.059**

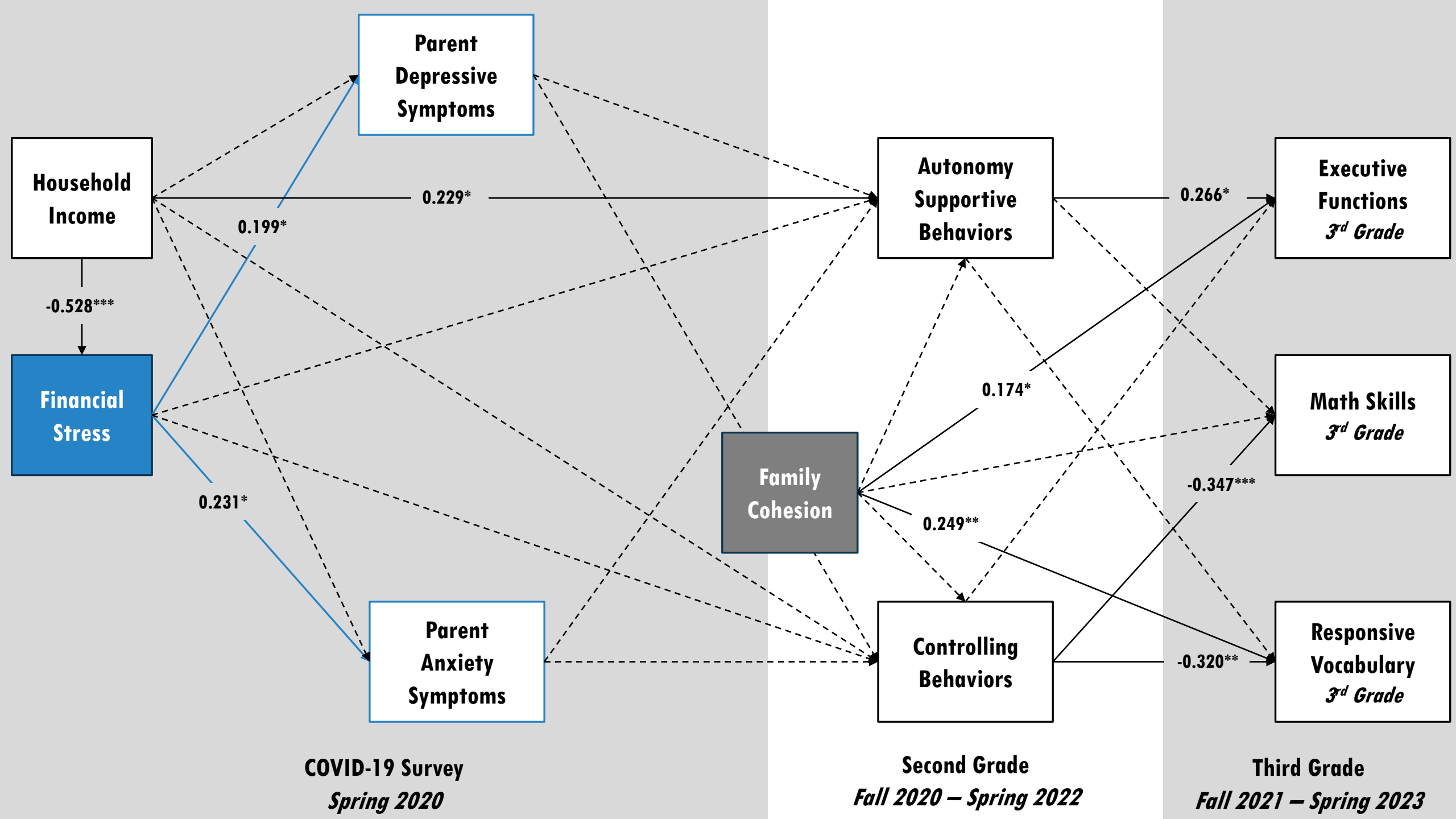
Child age, cohort, child gender, parent race/ethnicity, marital status, and cohort were included as covariates

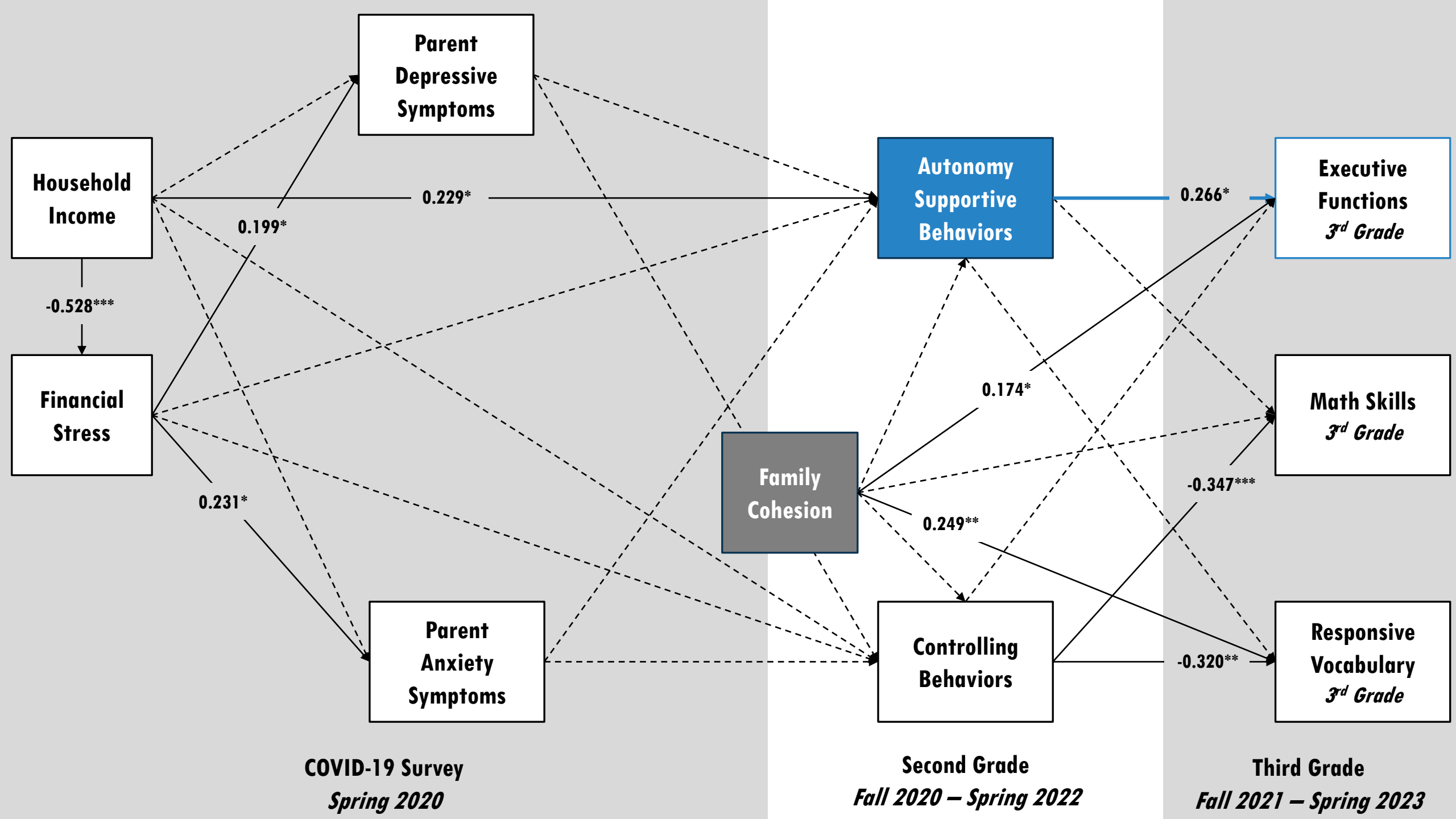
Parents' mental health (anxiety and depression), observed parenting behaviors (autonomy support and control) were covaried, and cognitive skills (EFs, vocabulary, and math skills) were covaried

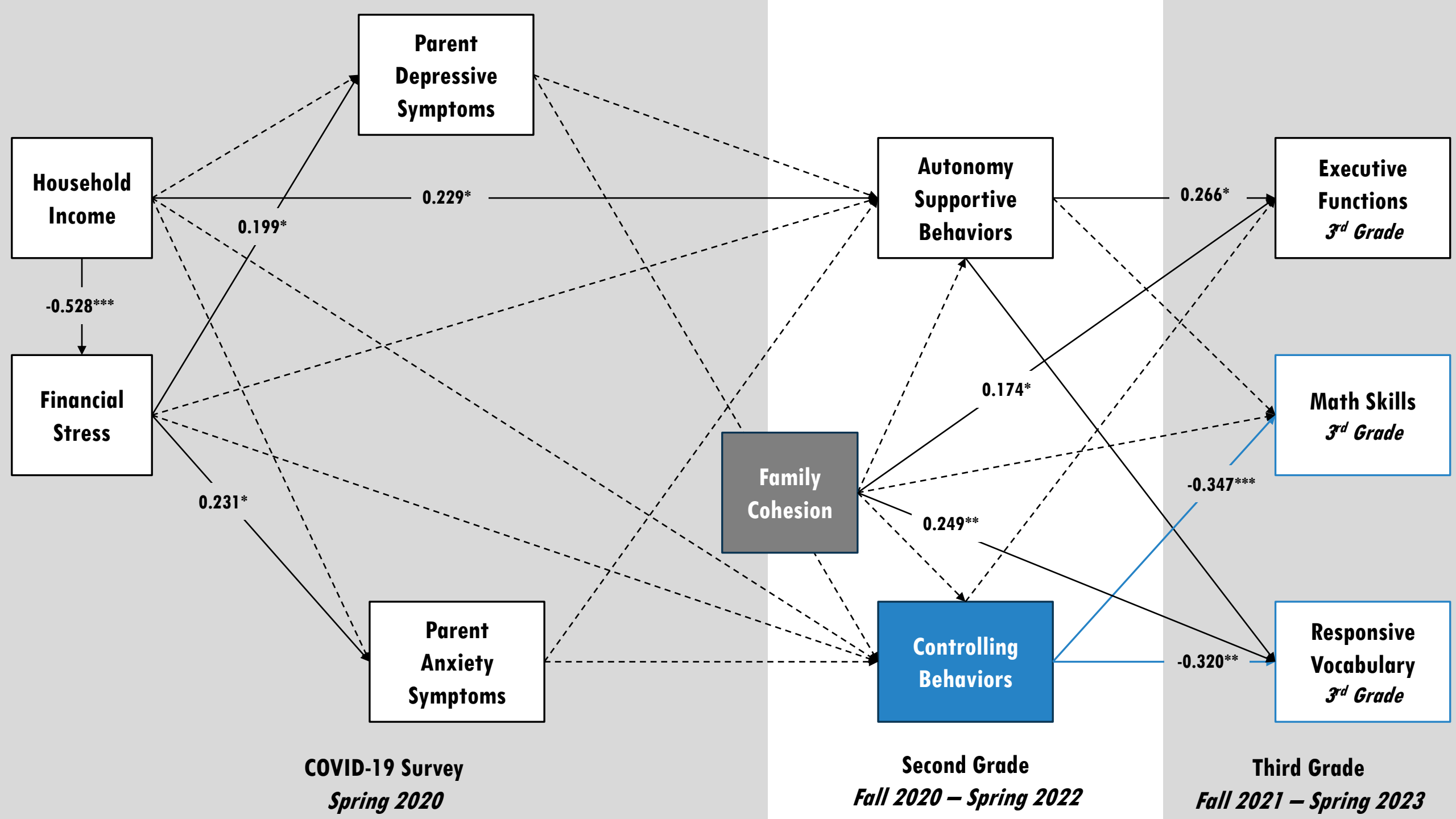
Standardized coefficients are presented

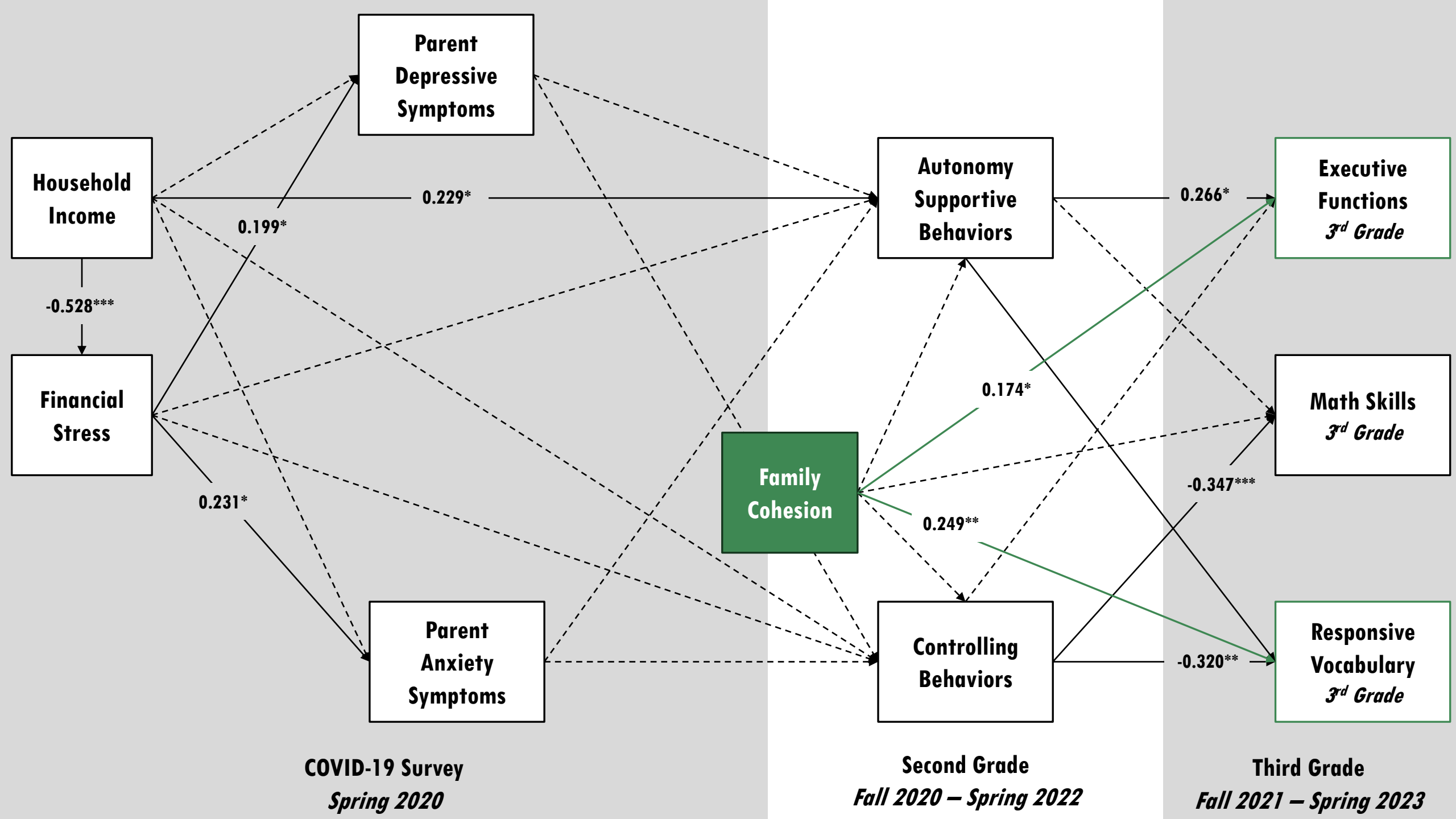












SUMMARY

Economic hardship led to increased mental health challenges via financial stress

- **Direct impacts on autonomy-supportive parenting**

Parents' controlling behaviors were linked to lower academic skills (math and vocabulary) whereas parents' autonomy-supportive behaviors were linked to higher executive function skills

Family cohesion compensated against the negative links between economic distress for children's executive functions and vocabulary

IMPLICATIONS

Interventions to support families facing economic hardship would have cascading benefits for parenting behaviors and children's cognitive development

- **Baby's First Years Study – positive impacts of unconditional cash transfers on infants' brain activity that supports later cognitive development (Troller-Renfree et al., 2022)**
- **Family systems approach to interventions to incorporate all members of the family to enhance cohesion**

Important policy implications around allocating resources towards equitable economic recovery

- **Particularly important given recent eliminations of pandemic financial relief for families – child poverty doubled from 2021 to 2022 with the expiration of the Child Tax Credit in the American Rescue Plan (Annie E. Casey Foundation, 2023)**

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