Chronicity of Household Stress and Children's Behavioral Problems during the COVID-19 Pandemic

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Children's Behavioral Problems in Early Elementary School

Children's behaviors during early elementary school are linked to their abilities to engage and learn in classroom settings and have long-term implications for their mental health and well-being (Coplan & Rubin, 2010; Okano et al., 2020; Searle et al., 2014; Weeks et al., 2016)

- Attentional Problems: challenges with focusing, completing tasks
- Externalizing Problems: aggression, impulsivity, hyperactivity
- Internalizing Problems: loneliness, sadness, worrying

In early childhood, the home environment is a key context in which children develop their social-emotional skills.

Family Stress Model



Family Stress Model



The COVID-19 Pandemic

The ongoing COVID-19 pandemic has led to significant stress for families with young children

- Decreases in financial stability
- Quarantines and local COVID-19 restrictions impact schooling and child care
- Worries about impacts of the pandemic on children's academic development and behavior

Evidence of increased stress and mental health symptoms for parents and increased behavior problems for children (Patrick et al., 2020; Russell et al., 2020)

• A handful of studies show concurrent links between parental distress and children's behavioral problems (Adegboye et al., 2021; Giannotti et al., 2021; Sun et al., 2022)

Research Questions

- 1. What are the most common patterns of mental health symptoms and financial stress across the first year of the COVID-19 pandemic for parents of early elementary school students?
- 2. How do these groups of parents differ based on socio-demographic characteristics?
- 3. What are the rates of chronic, significant mental health symptoms for parents of early elementary school students?
- 4. How does chronicity of mental health symptoms over the first two years of the pandemic link to children's behavior problems in winter 2021?

Sample

Sample of 273 kindergarten (32%), first-grade (59%), and second-grade (10%) students

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

Socio-economically diverse

- Household income: Median = \$65,000, IQR: \$37,500 \$95,000
- 12% HS degree or less, 28% some college, 36% college degree, 23% graduate degree
- 84% married, 72% married to biological parent

Study Timeline



Measures: Household Stress

Financial Stress Index (Essex et al., 2002)

• Thinking about money problems, difficulty meeting payments, money at end of month, finances stand in way of things you want to do ($\alpha = .87/\alpha = .87$)

The Center for Epidemiological Studies – Depression scale (CES-D; Radloff, 1977)

• 10-item depressive symptoms (α = .87 / α = .87; e.g., "I could not get going")

PROMIS Emotional Distress – Anxiety Short Form (Pilkonis et al., 2011)

• 7-item anxiety symptoms (α = .93 / α = .93; e.g., "I felt worried," "I felt nervous")

Perceived Stress Scale (Cohen et al., 1983)

• 10-item perceived stress ($\alpha = .87 / \alpha = .86$; e.g., "found that you cannot cope with all of the things you have to do," "felt difficulties were piling up so high, you could not overcome them")

Measures: Behavioral Problems

Brief Problem Monitor (Piper et al., 2014)

- Attentional Problems (α = .84; e.g., "can't concentrate," "impulsive")
- Externalizing Problems (α = .82; e.g., "argues a lot," "temper tantrums")
- Internalizing Problems (α = .80; e.g., "too fearful or anxious," "unhappy or sad")

Scale	Mean	SD	Min	Max	% 0
Attention problems	2.50	2.59	0	12	30%
Externalizing Problems	2.31	2.56	0	14	30%
Internalizing problems	1.78	2.16	0	11	34%

Mean Levels of Household Stress, by Class Membership



Latent Class Descriptions

Class 1: Low financial stress, no mental health symptoms (*n* = 36, 15%)

- Class 2: Chronic, low stress (*n* = 84, 35%)
- Class 3: Chronic, moderate stress (*n* = 56, 23%)

Class 4: Initial stress, decreases over time (*n* = 43, 18%)

Class 5: Chronic, high stress (*n* = 24, 10%)

Latent Class Descriptions

Class 1: Low financial stress, no mental health symptoms

Class 2: Chronic, mild stress

- Class 3: Chronic, moderate stress
- Class 4: Initial stress, decreases over time

Class 5: Chronic, high stress

	Class 1 (2020)	Class 2 (2020)	Class 1 (2021)	Class 2 (2021)
None-slight anxiety	100%	60%	100%	71%
Mild anxiety	0%	31%	0%	24%
Moderate anxiety	0%	9%	0%	4%

Both Class 1 and Class 2 show some financial stress, except parents in Class 2 report some mental health distress symptoms

In 2020: 0% of Class 1 reported clinical depression, whereas 14% of Class 2 reported clinical depression Mean Levels of Household Stress, by Class Membership



Latent Class Descriptions

Class 1: Low financial stress, no mental health symptoms

Class 2: Chronic, mild stress

Class 3: Chronic, moderate stress

Class 4: Initial stress, decreases over time

Class /

Class 5: Chronic, high stress

Class 2

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Both Class 3 and Class 4 show moderate stress in 2020, but Class 4 members report decreased stress in 2021

Group 3: 86% clinical depression in 2020, 93% clinical depression in 2021
Group 4: 98% clinical depression in 2020, 9% clinical depression in 2021

Anxiety Symptoms	Class 5		Class 5	Class 4					
	(2020)	(2020)	(2021)	(2021)	Perceived Stress	Class 3	Class 4	Class 3	Class 4
None-slight anxiety	22%	8%	0%	58%		(2020)	(2020)	(2021)	(2021)
Mild anxiety	36%	13%	33%	38%	Low stress	5%	3%	0%	23%
Moderate anxiety	42%	75%	64%	4%	Moderate stress	91%	75%	92%	77%
Severe anxiety	0%	5%	3%	0%	High stress	5%	23%	8%	0%





Demographics by Group Membership

Group	Household Income	Parental Education	% Married	% Male Children
1: Low financial stress, no mental health	\$65,000	15.38 years	83%	47%
2: Chronic, mild household stress	\$85,000	15.63 years	90%	51%
3: Chronic, moderate stress	\$75,000	15.36 years	84%	57%
4: Initial moderate stress, decreases over time	\$45,000	14.30 years	79%	70%
5: Chronic, high stress	\$41,250	14.47 years	70%	58%

Mean Levels of Household Stress, by Class Membership



Mental Health Stress Chronicity

The Center for Epidemiological Studies – Depression scale (CES-D; Radloff, 1977)

• 1 point for being above clinical depression cut-off (in both Spr 2020 & Win 2021)

PROMIS Emotional Distress – Anxiety Short Form (Pilkonis et al., 2011)

• 1 point for moderate or severe anxiety (in both Spr 2020 & Win 2021)

Perceived Stress Scale (Cohen et al., 1983)

• 1 point for moderate or high severe stress (in both Spr 2020 & Win 2021)

Composite chronic mental health stress score ranges 0 – 3

Chronicity of Mental Health Stress



Just over half of parents (53.9%) reported significant mental health distress in at least one category at Spring 2020 **AND** Winter 2021

- 29.79% for 1 category (perceived stress was most common)
- 14.18% for 2 categories
- 9.93% for 3 categories

Regression Analyses

	Attentional Problems		Externalizi	ng Problems	Internalizing Problems		
Mental Health Chronicity	0.252	(0.081)**	0.189	(0.083)*	0.230	(0.086)**	
Male child	0.317	(0.165)+	0.285	(0.169)+	0.055	(0.175)	
Child age	0.116	(0.107)	0.018	(0.110)	0.079	(0.114)	
Household income	-0.252	(0.079)**	-0.217	(0.081)**	-0.127	(0.084)	

Note. + *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001

Summary of Results

Distinct patterns of financial and mental health stress in parents

• Most common is chronic low stress (35%), followed by chronic moderate stress (23%)

Parents in the 'chronic low stress' and 'chronic moderate stress' groups reported higher levels of education and income

 Parents in the 'initial moderate stress, decreases over time' and 'chronic higher stress' groups reported lower levels of education and income

Groups with more stress were more likely to have a male child and less likely to be married

Chronicity of mental health stress over the first two years of the pandemic were linked to higher rates of attention, externalizing, and internalizing problems











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the Learning and Development Research group

reach out with questions: jenna.finch@unl.edu

Facilitated Discussion

- What information resulted from this investigation? What are the key take-away points?
- How can information from this study inform or advance early childhood practice?
- How can information from this study inform or advance early childhood policy?
- What additional research is needed to inform or advance early childhood practice and/or policy?
- How can lessons from practice or policy inform this line of research?