



### Background

- The COVID-19 pandemic resulted public health and policy measures to reduce in-person contact and virus transmission.
- Restrictions have impacted daily life and mental well-being (MWB)
- Children are particularly vulnerable to COVID-19 restrictions

### Research Goals

1. Use qualitative methods to explore the MWB impacts of COVID-19 on children
2. Quantitatively assess the association among perceived changes in physical activity (PA) and sedentary behaviors (SB) and perceived MWB changes

### Methods

- Convergent parallel mixed-methods design
- Convenience sampling
- Online survey and interviews with Parents/caregivers of children K-5th grade in St. Louis region
- Used an adapted child Mood and Feelings Questionnaire to measure MWB
- Qualitative analysis using codebook developed to elicit themes on MWB, PA, SB
- Quantitative analysis using chi-square tests and logistic regressions
- Results from both methods integrated to inform study interpretations

### Measures and Results

- Online survey (n=144), interviews (n=16)
- Child characteristics: 44% female, 96% white, ages 5-12 years
- 74% of parents perceived child MWB to worsen
- 61% of parents perceived a decrease in child PA
- 91% of parents perceived an increase or maintenance in time spent sitting

#### Analyses of child COVID-19 concern, PA, and SB with perceived change in MWB during COVID-19 (n=144)

	Correlation Coefficient (R)	B(SE)	OR	95% CI
<b>COVID-19 concern<sup>a</sup></b>				
Discontent	8.06**	-1.14 (0.41)	0.32**	0.14, 0.72
Concerned	7.20**	-1.09 (0.42)	0.34**	0.15, 0.76
Afraid	3.44	.	.	.
<b>PA behaviors<sup>b</sup></b>				
Change in PA	4.10*	0.77 (0.38)	2.16*	1.02, 4.59
Change in organized sports	5.61*	1.05 (0.45)	2.86*	1.17, 6.95
Change in outside play	6.35*	1.27 (0.53)	3.58*	1.27, 10.06
Change in inside play	1.22	.	.	.
Change in family PA	0.81	.	.	.
<b>SB<sup>c</sup></b>				
Change in sitting	4.65*	-1.32 (0.64)	0.27*	0.08, 0.95
Change in screen time entertainment	0.00	.	.	.
Change in screen time education	1.31	.	.	.

Statistical Significance at the P < 0.05 (\*), p < 0.01 (\*\*) level  
<sup>a</sup> Reference groups for COVID-19 concern (not true)  
<sup>b</sup> Reference groups for PA behaviors (decrease)  
<sup>c</sup> Reference groups for SB (decrease)

### Conclusions & Implications for Practice

#### Conclusions

- Based on parent perceptions, MWB decreased, PA decreased, and SB increased with COVID-19 restrictions
- Maintained or increased child PA improved the chances MWB would remain the same or improve.
- Outdoor play was perceived to have the greatest impact on child MWB
- Qualitative analysis suggests in-person school closures, concern about COVID-19, and changes to daily life (e.g. limited contact with friends and family) due to COVID-19 restrictions, contributed to worsening child MWB

#### Implications for Practice

- Efforts should be directed toward increasing socialization remotely, improving communication with children about COVID-19, and finding ways to increase PA and reduce SB during the COVID-19 pandemic
- Use technology to increase socialization but incorporate physical activity to offset sedentary time (ST)
- Incorporate short PA breaks into remote class time to break up ST
- Weather permitting, as a family take walks, bike ride, and spend time outdoors when possible

### Qualitative Themes:

#### Adjusting to COVID-19 Restrictions

“She’s definitely been very up and down. She really missed seeing friends, missed seeing extended family, missed going places. She really missed school, that was really hard for her...”

He misses his friends a lot. When we drive by the school, he gets pretty emotional...”

#### COVID-19 Concern

“He asks lots of questions about it and on occasion he will express concern like, “Will I get sick? Are you sick? Are you going to get sick?”

“She is concerned about it when we started kind of seeing like grandparents again, she was nervous to hug them or touch them or get too close to them...So it definitely made her more cautious.”

#### Protective Factors

“as the weather got better and we could be outside doing more, I think some of that was alleviated just because he didn’t feel so confined.”

“they do a lot of FaceTime and some of those apps like House Party and things like that so they can actually see each other and talk and a group of them being together.”

### Contact Information

Contact Presenter Name: Amanda Gilbert  
[a.s.gilbert@wustl.edu](mailto:a.s.gilbert@wustl.edu)

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<sup>1</sup>Washington University in St. Louis, St. Louis MO