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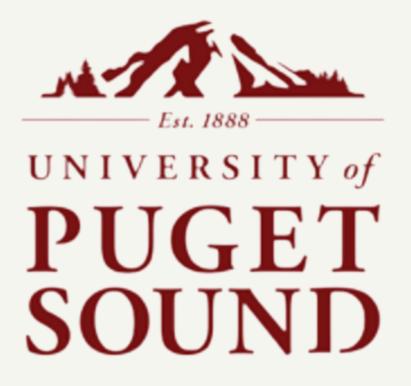
Summer Research

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Child Development & Covid-19: How Different Modes of Interpersonal Communication Impact Social Skills in Early Elementary School Students

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INTRODUCTION

Background:

Due to Covid-19, many American schools ceased in-person instruction during the 2020/21 school year. These closures have seriously impacted children's development. Much of the current research identifies adverse academic effects (see Rao & Fisher, 2021; Timmons et al., 2021). Less understood are the impacts of school closures on young children's social skill development.

Social Skills in Academic Settings:

Learning in primary grades is greatly dependent on in-person peer relations (Timmons et al., 2021):

- In-Person interactions provide the opportunity to learn necessary social skills such as emotion regulation and communication (Cameron & Tenenbaum, 2021)
- Peer **play** is essential for children to understand emotions in others and learn appropriate behavior for group settings (Cameron & Tenenbaum, 2021)
- Lack of social experience may impact children's ability to selfregulate and communicate their experience of strong emotions

Previous parental reports during the pandemic indicated:

- Children experienced more stress than usual (Christner et al., 2021)
- Children were more angry and irritable or showed signs of depression and anxiety (Sama et al., 2020)

The Current Study:

Prior to the Covid-19 pandemic, research seldom focused on the impact of online interactions on children's social development. Online interactions are the new normal as they allow for social interaction and compliance of public health guidelines. It is imperative to further understand how these interactions influence social development in young children.

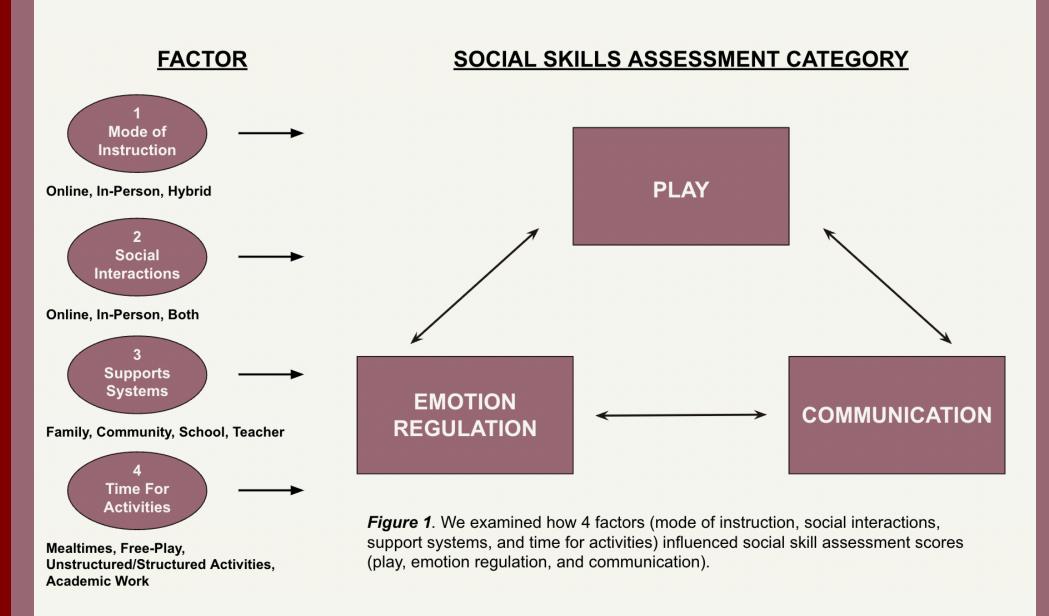
<u>Research Question:</u> How do Online and In-Person interactions contribute to the development of social skills in early elementary school students?

We focused on 3 **foundational social skills** categories:

- Play
- Emotion Regulation
- Communication

We examined how 4 factors, outlined in *Figure 1* contributed to these areas of social skill development.

RESEARCH DESIGN



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METHOD

Participants:

- We reached out to children's museums and other community organizations to help with recruitment
- Participants across the United States completed an online survey
- Over 150 people opened the survey
- 39 Parents of First & Second Graders (*M*_{child age} = 7 years) provided sufficient data for analysis



le received one international response from Wiesbaden, Hesse, Germany

Survey:

- Demographic Information
 - Child's Age & Grade
 - Siblings Parent's Education Level
- Experience during the 2020/21 School Year
 - Factor 1: Mode of Instruction • Factor 2: Social Interactions • Factor 3: Support Systems • Factor 4: Time For Activities
- Social Skills Assessment Rating Scale from 0 "never" to 3 "often"
 - **Part A:** Play i.e. "plays cooperatively with peers"
 - **Part B:** Emotional Regulation • i.e. "self-regulates when tense or upset"
 - **Part C:** Communication • i.e. "introduces self to someone new"

RESULTS

FACTOR 1: Mode of Instruction:

 There was no statistical evidence to suggest that mode of instruction impacted social skills assessment scores

For Mode of Instruction and:

- Play: *F*(2,34) = 1.20, *p* = .32
- Emotion Regulation: F(2,34) = 0.24, p = .71
- Communication: *F*(2,34) = 1.65, *p* = .21

FACTOR 2: Social Interactions

• Online interactions had **no significant** effect on social skills assessment scores

For Online Interaction and:

- Play: *t*(32) = 0.95, *p* = .35
- Emotion Regulation: t(32) = 0.63, p = 0.63
- Communication: *t*(32) = 0.34, *p* = .53

• In-Person interactions had a marginally significant effect on play skills scores

- For *In-Person Interaction* and:
- Play: t(32) = -1.96, p = .05
- Emotion Regulation: t(32) = -0.79, p =
- Communication: t(32) = 0.02, p = .99
- Children who had in-person social interactions had **significantly higher play scores** than children who had no social interactions

∘ *t*(37) = -1.77, *p* = .04

FACTOR 3: Support Systems:

positively correlated with play and communication scores (Table 1)

Table 1

| Pe | arson | Correl | ation | Matrix | for | Support | and | |
|----|-------|--------|-------|--------|-----|---------|-----|--|
| | | | | | | | | |

| Measure | 1 | 2 |
|-----------------------|--------|-------|
| 1. Teacher Support | - | |
| 2. School Support | .728** | - |
| 3. Family Support | .266 | .225 |
| 4. Play | .396* | .266 |
| 5. Emotion Regulation | .326 | .212 |
| 6. Communication | .452** | .434* |

Note: *p<.05, **p<.01

FACTOR 4: Time For Activities:

Time spent on variou significantly, positive intercorrelated (Table

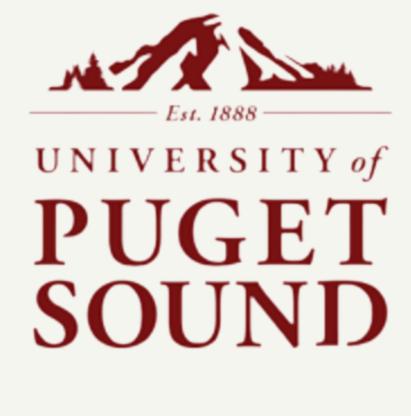
Table 2

Pearson Correlation Matrix for Time on Activit Measure

| modouro | · · |
|--------------------------------------|--------|
| 1. Shared Mealtimes | - |
| 2. Free Play | .611" |
| 3. Unstructured Family Activities | .535** |
| 4. Structured Family Activities | .597** |
| 5. Academic Work | .568** |
| 6. Play | .360* |
| 7. Emotion Regulation | .313 |
| 8. Communication | .182 |

Note: *p<.05, **p<.01





CONCLUSIONS • Type of schooling had a negligible effect across all social skills In-person interactions are valuable for play skill Inconclusive about the effect of in-person interactions on • Education support systems such as schools and teachers positively impacted children's play and communication scores • Time spent on all categories of activities were intercorrelated Families who spent more time on any given activity were more likely to spend more time on all other types of activities • Online and In-Person school instruction (Factor 1) provided similar social skills outcomes. However, social interactions (Factor 2) appear to impact specific social skills differently. For example, in-person social interactions may improve play scores. These patterns appear to be influenced by support systems • While schools were unable to provide in-person social interactions, families in our sample sought out alternative ways • A larger sample is necessary to make sense of data patterns. Our data came from a small, highly educated sample • 82% of participants had a bachelor's or graduate degree • 74.4% of children had in-person social interactions • While we had participants from many areas throughout the country, our sample was not representative of everyone's REFERENCES • Cameron, L. & Tenenbaum, H. R. (2021). Lessons from developmental science to mitigate the effects of the COVID-19 restrictions on social development. Group Processes & Intergroup • Christner, N., Essler, S., Hazzam, A., Paulus, M. (2021). Children's psychological well-being and problem behavior during the COVID-19 pandemic: An online study during the lockdown • Rao, N. & Fisher, P. A. (2021). The impact of the COVID-19 pandemic on child and adolescent • Sama, B. K., Kaur, P., Thind, S. P., Verma, M. K., Kaur, M., Singh, D. D. (2020). Implications of COVID-19-induced nationwide lockdown on children's behaviour in Punjab, India. Child Care, • Timmons, K., Cooper, A., Bozek, E., Braund, H. (2021). The impacts of COVID-19 on early childhood education: Capturing the unique challenges associated with remote teaching and

Factor 1:

categories

Factor 2:

- emotion regulation and communication skills

Factor 3:

Factor 4:

Implications:

- (Factor 3) and time on activities (Factor 4)
- to provide their children such interactions

Limitations

- experience with the pandemic

- Relations, 24(2), 231-236.
- period in Germany. PLoS One, 16(6).
- development around the world. Child Development, 92, 738-748.
- Health & Development, 47(1), 128-135.
- learning in K-2. Early Childhood Education, 49, 887-901.

ACKNOWLEDGEMENTS

- The Agricola Summer Endowment Fund and a University of Puget Sound UEC summer research grant generously funded this project
- We would also like to thank all the community organizations and children's museums who assisted us with recruitment

• Teacher and School support significantly,

Social Skills Scores

| 4* | .046 | .601** | .633* |
|----|------|--------|-------|
| | | | |

| s activities were /ely le 2) | |
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| ;** | .409* | - | | | | |
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| ** | .652* | .604** | - | | | |
| | | | | | | |
| }** | .671** | .267 | .423* | - | | |
|)* | .392* | .402* | .449** | .307 | - | |
| 5 | .216 | .324 | .285 | .079 | .784** | - |
| | | | | | .601** | |

