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Title: Family Tensions Around Contact Tracing Technology During COVID-19

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Abstract:

Smart technologies are upending normative expectations that parents are the authority figure in families, challenging conventional wisdom about the power dynamics of parent-child attachment relationships (Bortz et al., 2019; Darling & Steinberg, 1993). Younger generations in the 21st century are digital natives, signaling that youth may have more technological expertise (and use more platforms) than parents (Dworkin et al., 2018; Hertlein & Twist, 2019). In the digital age, technological knowledge is a source of power that can challenge the intergenerational hierarchy, fueling uncertainty and exacerbating developmental tensions in families.

Our transdisciplinary research team brings expertise from family science, with a focus on familial relationships over the life course (e.g., Allen & Henderson, 2017), and information systems, with a focus on information privacy in the digital age (Bélanger & Crossler, 2019). We examined how intergenerational family relationships are affected by tensions when adopting new technologies. The unanticipated COVID-19 pandemic provides an opportunity to understand how families navigate attitudes and behaviors that can jeopardize health and well-being during a global health crisis (Thomeer et al., 2020). Informed by family stress and resiliency theories (Henry et al., 2015; Prime et al., 2020), and information technology research, we studied parent-teen pairs around the use of contact tracing and health assessment apps. Contact tracing apps can help warn a user if they have been near a COVID-19 positive person. Each family member must decide whether to enable contact tracing on their smartphone, which affects the entire household. Contact tracing in families can generate stressful interactions due to clashes between individual and family-level decision-making.

We surveyed parent-teen pairs longitudinally through Qualtrics at two time periods (2020; 2021), using mainly quantitative measures regarding contact tracing and COVID-19 beliefs and practices. We also asked open-ended qualitative questions about problems families face during COVID-19. Time 2 data collection and analysis are ongoing. The Time 1 sample was 379 pairs throughout the United States and was racially and educationally diverse. The average age of parents was 46.9 years and for teens 15.1 years. About half the parents were female, and the majority of teens were male.

We highlight several current findings. First, 75% of parents identified that their family was facing at least one major hurdle during COVID-19, and only 16.7% of parents said they were facing no major problems. Finances was the main problem (e.g., unemployment, lack of food, debt). Other problems included difficulties of online learning/schooling, social isolation, and COVID-19 concerns (e.g., fear of getting the virus, safety). Second, we found that although pairs often used COVID preventative behaviors, few parents and teens used contact tracing or health assessment apps (see Table 1). Parents expressed more concerns for their family's information privacy than themselves. Teenagers were more concerned about having their activities tracked.

Overall, our study demonstrates a general lack of understanding about contact tracing and information privacy, and the need for community education and media campaigns to inform the public about the risks and benefits surrounding technology and health. This research establishes new precedents for understanding individual, familial, and societal dimensions of the intersections among technology and health.

Table 1. COVID preventative behaviors (N = 379)

COVID Preventative Behaviors	Parent	Teenager
Often or always...		
wear a mask	85.5%	83.6%
stay six feet from others outside of my home	83.9%	72.6%
wash hands for at least 20 seconds especially after being in a public space	82.9%	72.6%
clean and disinfect surfaces	77.5%	57.8%
avoid public gatherings	75.2%	65.1%
stay home as much as possible	68.9%	62.2%
use a health assessment app	24.5%	22.2%
use a contact tracing app	16.8%	18.2%

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