

# CHRD 2024: Abstract Submission Form

**Presenter Name**

Madi Sitka

**Presenter Status**

Masters Student

**Role in the project**

Design

Analyze Data

Write Abstract

Co-First Author with Bobby McHardy

**Research Category**

Clinical

**Title**

Measuring Physiology in the Family: Emerging Practices for Fitbit Family Research

**Background**

As eHealth and digital interventions gain popularity in psychology and the health sciences, traditional physiological measures (e.g., electrocardiograms, polysomnographs) are being translated into easily accessible forms of wearable technology (i.e., Fitbit devices).

**Objective**

We outline early learnings, successes, and challenges of using wearable technology to capture physiological data in the context of family mental health research by providing a case study of the Building Regulation in Dual Generations (BRIDGE) program.

**Methods**

BRIDGE is a 16-week intervention that supports mothers with depression who are parenting young children. Across BRIDGE, participants wore Fitbit Inspire 2 and 3 watches (n = 110), enabling us to track daily sleep, physical activity, and minute-by-minute heart rate.

**Results**

Results demonstrate that utilizing wearable technology in family mental health research is feasible. On average, participants wore their Fitbit device 79.17% (SD = 4.14) of the time across the 16 weeks of BRIDGE. Results also highlighted common barriers to wearing the devices, with a subset of participants (n = 34) endorsing barriers to use such as skin irritation and dislike or disinterest in the Fitbit.

**Conclusion**

Emerging practices from our team (e.g., email reminders, and internal compliance measures) have allowed us to identify and support participants who were experiencing difficulties with their devices, thereby mitigating barriers to participation while increasing compliance and data availability. Data captured by wearable technology has allowed for the examination of new research questions involving maternal physiology and child health, while validating this novel use of wearable technology. We have remotely collected and analyzed physiological data from over 300 participants across multiple studies, finding associations between maternal heart rate and harsh parenting (e.g., Sitka et al., 2024). Future research should build on this early work to continue innovative research in the family mental health space.

**Do you have a table/figure to upload?**

No

## Authors

Name	Email	Role	Profession
Robert J.W. McHardy	mchardyb@myumanitoba.ca	Co-Presenting Author	Graduate
Madissen Sitka	sitkam@myumanitoba.ca	Co-Presenting Author	Graduate
Dana Watts	dana.watts@ucalgary.ca	Co Author	Graduate
Hayley Turner	turnerh1@myumanitoba.ca	Co Author	Undergraduate
Lara Penner-Goeke	pennerg8@myumanitoba.ca	Co Author	Graduate
Kailey Penner	kailey.penner@umanitoba.ca	Co Author	Graduate
Shaelyn Stienwandt	stienwas@myumanitoba.ca	Co Author	Graduate
Lianne Tomfohr-Madsen	lianne.tomfohrmadsen@ubc.ca	Co Author	Associate Professor
Leslie Roos	leslie.roos@umanitoba.ca	Co Author	Associate Professor
Ryan Giuliano	ryan.giuliano@umanitoba.ca	Co Author	Associate Professor