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Sharing physical activity knowledge

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## Motherhood, fitness, feelings and Fitbits:

Exploring the experiences of mothers in New Zealand who wear a physical activity monitor

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New digital health technologies are emerging at a rapid pace, shifting the ways we think about health, the body, and even health promotion.<sup>1</sup> Wearable physical activity monitors, such as the Fitbit or Jawbone, are examples of such technologies and can be commonly spotted in everyday settings. Widely available in a range of models and flashy colours, the popularity of these devices has risen steadily in recent years. The 2017 Alberta Survey on Physical Activity found that 38% of Albertans own a device, and of those who do not, 11% intend to use or own one in the near future.<sup>2</sup>

The widespread availability of these commercial devices makes them appealing tools for behaviour change. In fact, these devices have been used in a variety of physical activity and weight-loss interventions, with varying results.<sup>3-7</sup> Despite the equivocal evidence around their efficacy at prompting behaviour change, wearable physical activity monitors remain alluring to consumers.<sup>8</sup>

To understand the benefits and limitations of these technologies, it is important to examine not only whether they “work”, but also to understand how people use them, how people make sense of digital data, and how this data shapes the way we think about physical activity and health. For example, we know Fitbits tell people how many steps they have taken, but we do not know a lot about how people interpret the information, how they integrate it into their daily routines, or how it makes them feel.

### Fitbits and motherhood: The promise, appeal, and what we do not know

Ongoing research at the University of Waikato in New Zealand is addressing this gap. One study is examining the experiences of New Zealand mothers. Research suggests digital technologies including apps, online communities, and social networking sites act as important sources of information and advice for pregnant women and new mothers.<sup>9</sup> These digital platforms also provide a forum for mothers to connect with and support

### S U M M A R Y

Wearable physical activity monitors, such as the Fitbit or Jawbone, are the latest tools in physical activity technology. These devices allow individuals to track various physical activities throughout the day. However, little is understood as to how individuals interpret and use the data, or how the data shapes behaviours and everyday life.

This study explored these topics among mothers who use these devices.

each other, which can help alleviate feelings of isolation.<sup>10</sup> However, little research has examined how mothers engage with physical activity monitors.

The purpose of this study was not to determine whether wearing a Fitbit increased physical activity levels or not. Rather, this study sought to understand how mothers use physical activity monitors, how they interpret their personal data, and how this data shapes their thoughts and feelings about motherhood and health. Participants were mothers who belong to a Facebook group created by a New Zealand woman who wanted to connect with and support other mothers. The group wore physical activity trackers (Fitbits) in an effort to enhance their health. Initiated in February 2016, the group now has over 300 members. Semi-structured interviews were conducted in person or via Skype with 15 women from both the North and South Islands.



*"I've discovered so many cool walking routes and I see my neighbourhood completely differently now...I've even met more of my neighbours."*

### Key findings

Overall, women enjoyed wearing the device. They reported that wearing the Fitbit made working out and walking more enjoyable because checking their step count gave them something to look forward to. Participants also said they liked belonging to an online community for mothers. In some cases, women living in the same city or town were able to connect in-person and develop new friendships.

Wearing a Fitbit also prompted participants to interact with their neighbourhoods in new ways because they were motivated to walk further and longer. To highlight the physical, social, and spatial implications of wearing a FitBit, Poppy explained: "I've discovered so many cool walking routes and I see my neighbourhood completely differently now...I've even met more of my neighbours."

When asked how they made sense of the data, women described several themes. These are briefly discussed below.

### Data makes it real

The translation of daily physical activity into a quantified number or a visual graph was extremely important to the women. Chloe said, "Seeing the number of steps I've done shows me that I've really done something; it makes it real." Laura added, "I know if I've had a good day because I can see I've done a good number of steps...without seeing that, I don't know for sure. Somehow this makes it tangible." Therefore, the data generated by the Fitbit seemed to provide "evidence" of the women's activity. This reassured participants, and it was helpful for decision-making and planning future activity. As Elena explained, "Seeing [the number of steps] shows me how well I've done...it gives me something concrete to work with if I need to plan more."



### Data can elicit emotions

If data shows what is “real”, data can also elicit emotions. Women discussed their relationship with their Fitbit in highly emotional terms. Maria described the Fitbit as her “her best friend and worst enemy”, explaining that some days, it “makes me feel great, and gives me positive feedback...but it also makes me feel guilty.”

Many participants agreed that the Fitbit provided positive feedback and that this was important to them. Julia shared, “Nobody gives me a certificate when I do a good job of being a mom, and no one gives me a star when I walk out of the gym. As an obese woman, no one is saying to me, ‘That’s great that you made it here and have worked out for an hour’, but the Fitbit gives me a bit of that.” Lana elaborated, “It’s like a little pat on the back....even if no one else knows I made my steps, the Fitbit knows it, and I get that encouragement.”

For these women, the Fitbit provided something beyond numbers; something more meaningful and important to them. This underlines the complex relationships developed between women and the Fitbit, reminding us that humans and technology influence each other in ways we may not fully understand.

### What the Fitbit does not see

While participants identified advantages to the Fitbit, they also pointed out drawbacks and limitations. Their primary concern was that Fitbit data does not recognize contextual factors that shape the mothers’ ability to be active, such as time constraints or the realities of juggling childcare, household work and professional work. As Samantha put it, “The number that pops up doesn’t tell the whole story...but somehow we become obsessed with the number even if it doesn’t capture what’s really going on.”

Many women echoed this and stressed that there are multiple factors to consider when it comes to being active. However, the Fitbit does not acknowledge this. Elena said, “It says I’ve only taken 6,000 steps, but [the Fitbit] doesn’t know that I’ve been looking after two sick kids on my own, juggling a part-time job and just trying to make it through the day.” This was a concern echoed by all women interviewed and illuminates the need to consider contextual factors when interpreting Fitbit data.

### Conclusions and practical implications

This study highlights how mothers make meaning of physical activity trackers and suggests these devices do more than simply quantify physical activity. They have social and emotional impacts, and they shape the way women engage with digital and physical spaces. It also reminds us that the mothers lead complex lives that cannot be adequately reflected in a single number generated by a digital device.

*“Nobody gives me a certificate when I do a good job of being a mom, and no one gives me a star when I walk out of the gym...but the Fitbit gives me a bit of that.”*

When considering the value of these devices as part of an intervention or as a behaviour change tool, it is important to remember that numbers are contextual. The social, economic and physical conditions in which individuals live and act should be taken into account when interpreting digital data. For many women, it may not be possible to achieve the desired number of steps each day. Therefore, it may be valuable to explore the conditions in which mothers live and to address barriers outside of the individual.

This study also highlights often unacknowledged aspects of motherhood, including the unseen work and the very real challenges associated with finding time to take care of one's self. Physical activity promotion messages that target mothers may resonate more deeply when they consider these aspects of motherhood so as not to intensify feelings of guilt.

Finally, women described the pleasure of receiving recognition for their accomplishments, no matter how big or small, and of connecting with other women and with their neighbourhoods. Efforts to promote physical activity that emphasize these aspects of health and wellbeing, in addition to quantifiable physical indices of health, may be an important complement to traditional approaches.

By examining how people make sense of, feel about and interact with wearable devices, we may continue to identify previously unimagined benefits of these technologies.

## References

1. Lupton D. *The Quantified Self*. Cambridge, UK: Polity Press; 2016.
2. Macridis S, Johnston J, Vallance J. 2017 Alberta Survey on Physical Activity. [https://www.centre4activeliving.ca/media/filer\\_public/32/ba/32ba7851-ce7e-49b7-a02b-4bfd8b419853/2017-ab-survey-physical-activity.pdf](https://www.centre4activeliving.ca/media/filer_public/32/ba/32ba7851-ce7e-49b7-a02b-4bfd8b419853/2017-ab-survey-physical-activity.pdf). Published February 2017. Accessed March 24, 2017.
3. Cadmus-Bertram LA, Marcus BH, Patterson RE, Parker BA, Morey BL. Randomized trial of a Fitbit-based physical activity intervention for women. *Am J Prev Med*. 2015;49(3):414-418. doi:10.1016/j.amepre.2015.01.020.
4. Wang JB, Cadmus-Bertram LA, Natarajan L, et al. Wearable sensor/device (Fitbit One) and SMS text-messaging prompts to increase physical activity in overweight and obese adults: a randomized controlled trial. *Telemed E-Health*. 2015;21(10):782-792. doi:10.1089/tmj.2014.0176.
5. Hayes LB, Van Camp CM. Increasing physical activity of children during school recess. *J Appl Behav Anal*. 2015;48(3):690-695. doi:10.1002/jaba.222.
6. Finkelstein EA, Haaland BA, Bilger M, et al. Effectiveness of activity trackers with and without incentives to increase physical activity (TRIPPA): a randomised controlled trial. *Lancet Diabetes Endo*. 2016;4(12):983-995. doi:10.1016/S2213-8587(16)30284-4.
7. Jakicic JM, Davis KK, Rogers RJ, et al. Effect of wearable technology combined with a lifestyle intervention on long-term weight loss. The IDEA randomized clinical trial. *JAMA*. 2016;316(11):1161-1171. doi:10.1001/jama.2016.12858.
8. Nielsen C. Tech-styles: Are consumers really interested in wearing tech on their sleeves? *Nielsen Newswire*. March 20, 2014. <http://www.nielsen.com/us/en/newswire/2014/tech-styles-are-consumers-really-interested-in-wearing-tech-on-their-sleeves.html>. Accessed April 21, 2017.
9. Lupton D. The use and value of digital media for information about pregnancy and early motherhood: a focus group study. *Bmc Pregnancy Childb*. 2016;16. doi:10.1186/s12884-016-0971-3.
10. Gibson L, Hanson VL. Digital motherhood: How does technology help new mothers? Paper presented at: 2013 ACM SIGCHI Conference on Human Factors in Computing Systems; April 27 - May 2, 2013; Paris, France. <http://dl.acm.org/citation.cfm?id=2470654>.

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