Edwards, A. (2017). The impact of body image on Fitbit use: a comparison across genders. *Health Info Libr J*, 34: 247–251.

The impact of body image on Fitbit use: a comparison across genders

Amber Edwards
User Support Librarian
Bishop Grosseteste University
Email: Amber.Edwards@bishopg.ac.uk

Dissertation Context

The availability of technology has led to an increasing number of individuals engaging in activity tracking, for a multitude of reasons. This movement is known as the quantified self, whereby individuals effectively "live by numbers" (p.1164) through collecting and using personal data to quantify and optimise a certain aspect of their lives (Rooksby, Rost, Morrison, & Chalmers, 2014). The Fitbit is an example of an activity tracker which allows you to monitor step count, distance travelled, calories burned, water and food intake, sleep quality, as well as many other related features.

The study adopted a psychological perspective towards body image, using Grogan's (2006, 2008) understanding, which is related to how individuals perceive, feel and think about their own body. It can also include aspects of body size and shape and the emotions associated with this, as well as an evaluation of the attractiveness of the body. Much of the discussion surrounding body image has a tendency to focus on females, and there is a mixed bag of research which indicates both that dissatisfaction with body image discourages individuals to exercise due to the discomfort of revealing their bodies in sports clothing (Choi, 2000) and that a dissatisfaction with body image, or 'feeling fat', can encourage individuals to partake in exercise in order to change the way they feel about themselves (Furnham, A.Titman & Sleeman, 1992).

Body image in males is an increasing topic after years of neglect. There is a general assumption that males on average are likely to want to become more muscular and that achieving this will increase their body satisfaction (Grogan, 2006). However, research shows that many men are just as obsessed as women with counting calories, dieting and exercising excessively, as well as having a tendency to binge and purge (DeFeciani, 2015).

Given the conflict of assumptions and lack of consistency within this area, the main aim of this research was to gain an understanding of how body image shapes the way people use Fitbits. It also aimed to investigate if and how this differs according to gender.

Literature Review

The lack of literature specifically covering body image and activity tracking meant the literature review comprised two different sections: literature relating to body image and literature relating to Fitbit use. The literature on body image addressed the complexity of defining the concept and the multitude of definitions which exist from a psychological perspective, particularly from Grogan (2006) who explained the concept as 'broad' and 'multifaceted' (p. 524).

The relationship between body image and gender was a recurring theme and one where Groesz, Levine, & Murnen (2002) emphasized a westernized female ideal to attain a thin or slender beauty

standard, which often leads to body dissatisfaction (including eating restraints and over-exercising) if it is not achieved. There was a general consensus within the literature, particularly covered by Grogan & Richards (2002), McCreary, Saucier, & Courtenay (2005) and Tiggemann (2004) which emphasized the concept of males striving to achieve a muscular ideal. Additional research by DeFeciani (2015) addressed the increase of eating disorders amongst males.

The literature review covering Fitbit use revealed two main themes: personal informatics, looking specifically at the different styles and stages of activity tracking, and behavioural changes as the main goal of activity tracking. Rooksby et al. (2014) identified five different styles of activity tracking which include tracking to reach goals, document activities, find links between one thing and another, gain reward or achievement and to follow up a general interest in tracking devices and technology.

Building on this concept, Epstein et al. (2015) developed a new model of "lived informatics" to cover behaviours which were unaccounted for by existing models i.e. those who switch between different tracking activities and tools, and those who change their tracking activity over time. This model made the distinction between those who track because they have a behaviour-changing goal to achieve and those who track to gain some self-understanding, but never actually act upon or use their data.

Other studies were also carried out by Li et al., (2011) which looked at the tools used for personal informatics and how these aided self-reflection.

Research Methods

Interviews

Nine semi-structured interviews were conducted with participants who had used a Fitbit. These participants were made up of five females and four males. It was decided that participants would be broken down by age range to help get a better idea of how different groups of people use tracking technologies. Four participants were 16-24, three were 25-34 and two were 55-64. Five interviews took place face-to-face in the family homes of the participants, and four took place via Skype and FaceTime. Non-probability convenience sampling was used in selecting participants who were known to the researcher for ease.

The aim of the interviews was to collect data from Fitbit users regarding their reasons and experiences in using a Fitbit. A list of pre-planned questions was prepared as a guide for the interviews but, for the most part, participants could respond freely to discuss matters as they desired.

A pilot interview was first conducted involving one participant. This began with introductory questions, seeking very basic information about Fitbit use, e.g. models used, length of time using a Fitbit, etc. The questions then became direct and were more personal and in-depth, investigating the reasons for using a Fitbit and the views participants had of their own bodies. Follow-up questions were used where appropriate to build on the concept of body image.

Following the pilot interview, questions were amended slightly to account for participants who responded saying they did not use a Fitbit to change their perceptions of their bodies. In these cases, the questions became somewhat more generic and closed.

Thorough note-taking was applied throughout each interview and they were not recorded electronically.

The results were analysed using on-going thematic analysis throughout the study.

Results and Discussion

The interview participants were separated by gender to provide clarity on the research question, and were referred to in the results as:

Age Range	Female	Male
16-24	F1, F3	M1, M2
25-34	F4, F5	M3
55-64	F2	M4

Table 1: Participant breakdown by age and gender, showing the identifier codes used.

The study found that dissatisfaction with the body does provide motivation for using a Fitbit, and that users were generally looking to improve their bodies in some way. Seven out of nine participants expressed that they had used a Fitbit to change their own views about their body. However, the findings indicated that this was not their primary goal when they began using a Fitbit. F1 said that she does not directly use a Fitbit to change her body as she sees it, *but indirectly yes because it tracks my fitness and weight which are my main goals*, while M2 said *kind of, I think it might have influenced adapting my body*. Body image seemed to be something the interviewees had not considered and indeed it was not expected that they would have thought about it intensely before purchasing a Fitbit. However, when pursuing the questioning, it seemed to be a fundamental factor in using a Fitbit. This was seen most clearly through F3 who when asked if she used a Fitbit to change her body as she sees it, paused and thought about it for quite some time. She then responded, *yeah, I guess I do* and seemed genuinely surprised at this thought. The findings suggested that people were not directly aware of their motivations for tracking and that there is some disconnect between people's actions and their reasons for acting.

Dissatisfaction with body image providing motivation for using a Fitbit was not necessarily surprising given the connections made in the literature between body dissatisfaction and Epstein's (2015) model of personal informatics which incorporated goal-directed behaviour for individuals. It also corresponded to the findings of Grogan et al. (2004) whereby individuals participate in exercise to change their bodies, and the way they view their bodies.

The study also found that females had more of an issue with body image than males. Four out of five females claimed to use a Fitbit to change their bodies, compared to two out of four males. M4 claimed to use a Fitbit to change the way he views himself, specifically, *to try and lose weight*, whilst M2 expressed that he *use[d] it more for improvement for sports specific reasons like strength and speed*, thus still promoting self-improvement but on a very different scale to changing how one views their body. M3 expressed that he did not use the Fitbit to change the way he views his body, but that it was *more to have a better understanding of the limitations and how far I can push myself.*

These results were in many ways aligned with the literature. M3's expression of a desire to achieve a body which was healthier, leaner and had a lower body fat percentage resonates with the work of Grogan & Richards (2002), Tiggemann (2004) and McCreary et al. (2005), who describe males as striving to achieve a muscular physique, rather than trying to lose weight, as well as confirming that males evaluate body satisfaction differently to females.

The findings indicated that the Fitbit generally improved the participants' body satisfaction, with seven participants claiming they felt better about themselves compared to before they used a Fitbit. F1 felt initially happier and fitter with her body, but expressed that …*with body image even when you meet a target there's always something you can do and alter; you're never 100% happy*. M4 claimed that since using a Fitbit, his

> …*clothes fit better and I'm down a couple of sizes. I feel differently about myself. I feel more positive and able to physically do things like exercise and work. I think being able to buy clothes in a smaller size has had a positive impact on my mental wellbeing.*

F4 also expressed that she felt fitter and slimmer than she was before. However, this overwhelming improvement to body satisfaction was not the case for all participants. F3 felt the Fitbit had not improved the way she viewed her body, and said

> *I actually think it has made me become more negative about myself. Having it has made me more conscious and makes me think, 'well if I'm achieving all these things everyday then why aren't I seeing any effects'…to a certain extent anyway.*

The findings reiterated the complexity of body image and the underlying subjective nature which accompanies individual's perceptions of themselves.

The findings showed that dissatisfaction with body image shaped the way people use a Fitbit through the overwhelming emphasis on weight loss, which was the case for both genders. F1 explicitly claimed that she wanted to improve her cardiovascular fitness and endurance, and lose weight. Similarly, F5 was aware she had put on weight and felt she needed a change, and claimed she did use the Fitbit as a way of changing her body. This view was expressed by all female participants and two males.

Implications for Practice

The implications for practice brought about by this study are two-fold. Firstly, the study showed that activity trackers like Fitbits have changed the way we view our relationships with our bodies. We treat the body much more like a project with a goal which can be accomplished by reaching an arbitrary step-count each day - when this is not necessarily the case, as there may be many more complicated factors involved. This places extra burden on information professionals working in the health sector, in that there is evidently much work to be done in developing information literacy skills - specifically, learning to evaluate health-related information which instruct on leading healthier lives, rather than trusting an activity tracker to do it for you.

This study also has implications for researchers as it brought to light many gaps in the literature. Areas for further research might cover a large-scale study on the concept of body image and Fitbit use within the male population. The literature on males, although growing, is still limited,

particularly in relation to the use of tracking technologies. Similarly, an investigation inclusive of all genders, e.g. transgender and non-binary genders might provide an interesting study for further research. A similar study might also be conducted investigating how much of an impact body image has on using other tracking devices, other than the Fitbit. This would allow for comparison across products and would also provide an interesting exploration of how individuals use products in different ways, where limited by their functionality.

Conclusion

The study aimed to gain an understanding of how body image shaped the way people use Fitbits, and how this changes between genders. It found that body image had a big impact on the use of Fitbits in that the most common reason participants used a Fitbit was to change their bodies as they see them. More specifically, weight loss was shown to be the most common goal in Fitbit use. The study showed that females were slightly more concerned about changing the way they view their bodies, notably through weight loss, but that males can be just as dissatisfied with their bodies, but have different goals, and a different evaluation of body satisfaction.

References

Choi, P. (2000). *Femininity and the physically active woman*. London: Routledge.

DeFeciani, L. (2015). Eating Disorders and Body Image Concerns Among Male Athletes. *Clinical Social Work Journal*, *44*(1), 114–123. doi:10.1007/s10615-015-0567-9

Epstein, D. A., Ping, A., Fogarty, J., & Munson, S. A. (2015). A Lived Informatics Model of Personal Informatics. In *UbiComp '15 Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing*. New York, N.Y.: ACM. Retrieved from http://dl.acm.org/citation.cfm?id=2804250

Furnham, A.Titman, P., & Sleeman, E. (1992). Perception of female body shapes as a function of exercise. *Journal of Social Behaviour and Personality*, *9*(2), 335–352.

Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, *31*(1), 1–16. doi:10.1002/eat.10005

Grogan, S. (2006). Body Image and Health: Contemporary Perspectives. *Journal of Health Psychology*, *11*(4), 523–30. doi:10.1177/1359105306065013

Grogan, S. (2008). *Body Image: Understanding body dissatisfaction in men, women and children* (2nd ed.). London: Routledge.

Grogan, S., Evans, R., Wright, S., & Hunter, G. (2004). Femininity and Muscularity: Accounts of Seven Women Body Builders. *Journal of Gender Studies*, *13*(1), 49–61.

Grogan, S., & Richards, H. (2002). Body Image: Focus Groups with Boys and Men. *Men and Masculinities*, *4*(3), 219–232. Retrieved from http://link.springer.com/content/pdf/10.1007/978-1-4419-1005-9_1097.pdf

Li, I., Dey, A., & Forlizzi, J. (2011). Understanding My Data, Myself: Supporting Self-Reflection with Ubicomp Technologies. *Proceedings of the 13th International Conference on Ubiquitous Computing*, 405–414. doi:10.1145/2030112.2030166

McCreary, D. R., Saucier, D. M., & Courtenay, W. H. (2005). The Drive for Muscularity and Masculinity: Testing the Associations among Gender-Role Traits, Behaviors, Attitudes, and Conflict. *Psychology of Men & Masculinity*, *6*(2), 83–94. doi:10.1037/1524-9220.6.2.83

Rooksby, J., Rost, M., Morrison, A., & Chalmers, M. (2014). Personal Tracking as Lived Informatics. *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems - CHI '14*, 1163–1172. doi:10.1145/2556288.2557039

Tiggemann, M. (2004). Body image across the adult life span: Stability and change. *Body Image*, *1*(1),

29–41. doi:10.1016/S1740-1445(03)00002-0