

# The Use of Fitness Technology and Effect on Health Outcome Domains

Brianna Johnson, Mindy Gardner, Sarah Bowman, Wendi Irlbeck, Ben Christian, and Dr. Eun Joo Lee

Graduate Program of Food and Nutritional Sciences, Food and Nutrition Department, University of Wisconsin-Stout

## Introduction:

- According to the CDC, more than one-third of US adults are obese which leads to the concept that physical inactivity is now the fourth leading risk factor for mortality.
- The introduction of wearable fitness devices helps to control health condition and monitor the different health outcomes.
- It has been estimated that one in every six people has a wearable fitness device.
- The American Heart Association is calling this new technology 'wearable fitness coaches.'
- Such devices can be used to monitor steps and stairs taken, monitor sleeping habits, and even monitor heart rate.



## Research Objective:

**Hypothesis:** The use of fitness technology will have a positive impact on overall health outcomes

The study's main objective was to examine the strength of the relationship between the use of fitness technology and the impact on health habits

**Question 1:** Does the use of fitness technology improve or increase perceived health outcomes of UW-Stout gym goers?

**Question 2:** Do people who own fitness technology use it regularly?

**Question 3:** What kind of fitness technology is used by UW-Stout students?

## Methodology:

- A survey was administered at the UW- Stout Johnson fieldhouse on March 8<sup>th</sup> → survey consisted of 13 questions addressing various health domains
- After administration, completion, and return of each survey, a survey incentive of \$5 was given
- 75 participated, after exclusion criteria, 70 participants were used for the evaluation
- Example of Survey Question:
  - If you wear or use a fitness device or application, how often do you use it or wear it
  - Using fitness and wellness technology has increased my intake of fruits and vegetables per day? Y/N
  - If you wear or use a fitness technology, what was your main reason for starting to use it?

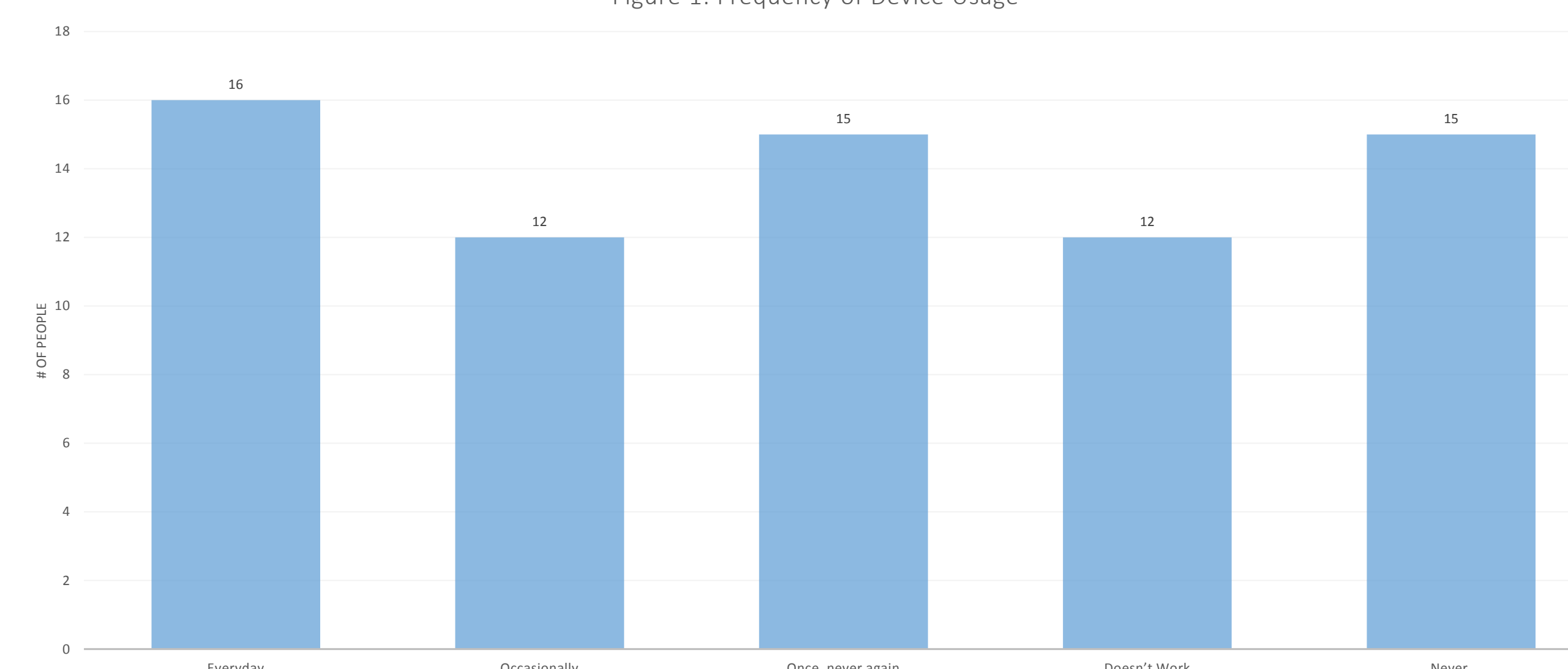
## Results:

Table 1. Opinion on Trackers.

	Gender	Mean	SD	SEM
FA Usage	M	3.21	± 1.51	0.21
	F	2.28	±1.07	0.25
FA Tracking Meals	M	2.15	±0.64	0.09
	F	1.94	±0.54	0.13
FA Image	M	3.38	±1.07	0.15
	F	2.27	±0.89	0.21

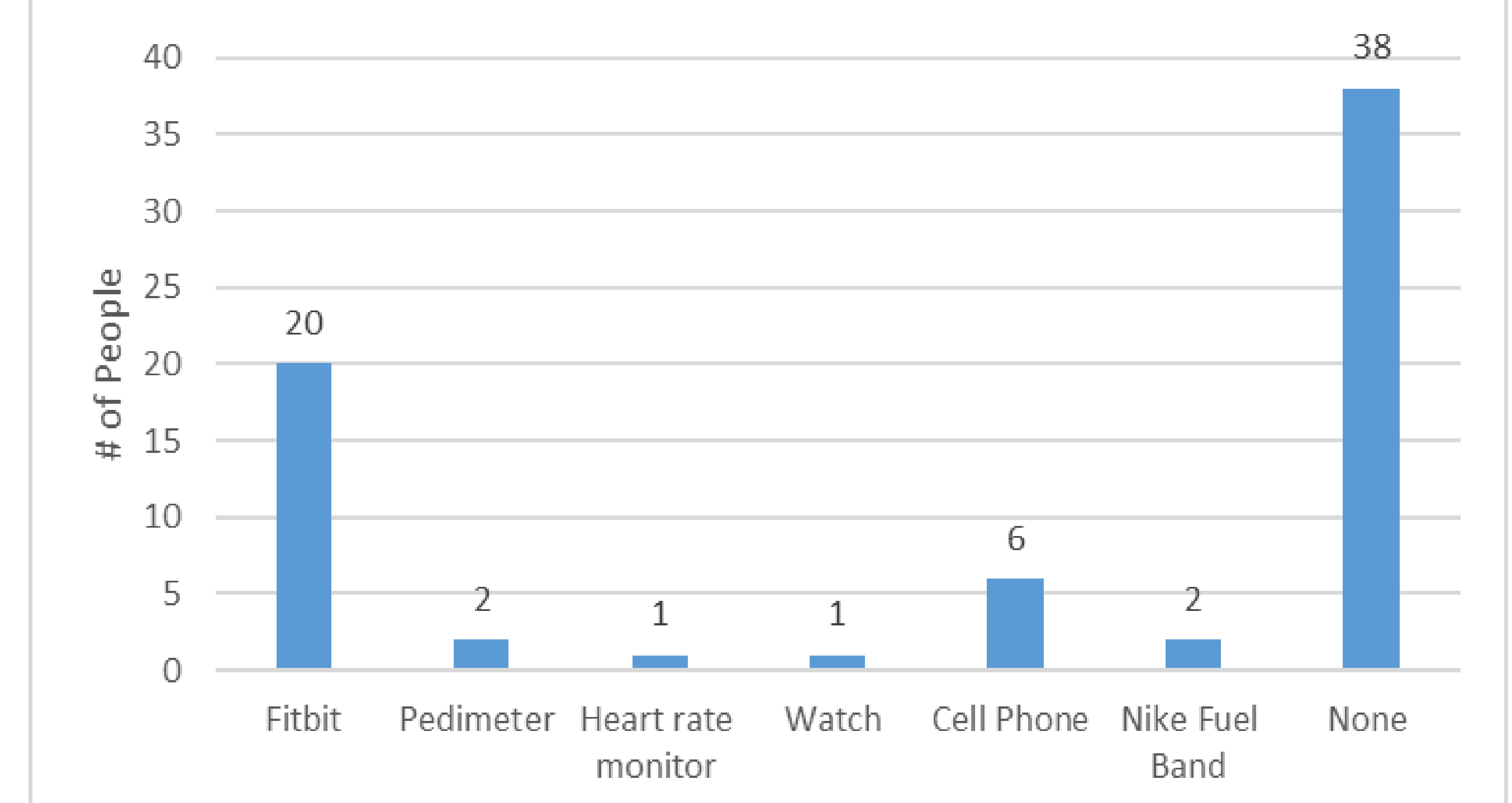
FA = Feelings About M = Male (52), F = Female (18), SD = Standard Deviation, SEM = Standard Error Mean  
1= Strongly Agree, 2= Moderately Agree, 3=Indifferent, 4= Moderately Disagree 5= Strongly Disagree

Figure 1: Frequency of Device Usage



- 22.8% of participants used a tracker device every day
- 28.5% participants stated the main reason they use trackers is to monitor the level of physical activity
- Out of the population surveyed, most UW-Stout students do not use fitness trackers

Figure 2: Variety of Fitness Trackers Used



## Conclusion:

- Expand to larger demographic
- Take actual anthropometric measurements
- Compare data between specific users vs. non-technology users
- More condense and straight-forward survey

## Future Research:

- Expand to larger demographic
  - UW System, different age groups, city-wide gyms, etc.
- Taking actual anthropometrics instead of relying on participant recall
- Compare data between specific users
  - Fitbit, Garmin, etc. versus non-users/occasional users
- More condensed and straight-forward survey

## References:

- Chiauzzi, E., Rodarte, C., & DasMahapatra, P. (2015). Patient-centered activity monitoring in the self-management of chronic health conditions. *BMC Medicine*, 13(1), 1-6. doi:10.1186/s12916-015-0319-2
- Rutter, M. (2015). Wearable technology: what are the mental health implications?. *Occupational Health*, 67(8), 11.
- Sipek, S. (2014). Wearing Your Health on Your Sleeve. *Workforce*, 93(8), 16.
- Using Technology to Get Fit and Stay Fit. (n.d.). Retrieved March 27, 2016, from <http://www.acefitness.org/acefit/fitness-fact-article/3287/using-technology-to-get-fit-and/>
- Obesity Rates & Trends. (n.d.). Retrieved March 27, 2016, from <http://stateofobesity.org/rates/>
- American Heart Association. (2014, August 27, 2014). Wearable activity trackers in the mainstream. Retrieved from <http://blog.heart.org/wearable-activity-trackers-in-the-mainstream/>