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### Effects of Wearable Devices on a Person's Lifestyle

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Patel, Krima and Gupta, Adarsh, "Effects of Wearable Devices on a Person's Lifestyle" (2021). *Rowan-Virtua Research Day*. 37.

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# Effects of Wearable Devices on a Person’s Lifestyle

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## Abstract

Lifestyle of the general population is a genuine concern currently due to processed foods and sedentary lifestyles. Also, technology has geared the new generation towards introversion but, not all technology is bad. If used in the correct way, technology can be helpful in transitioning from an unhealthy lifestyle to a healthy lifestyle. Through the SMRF research program, it addressed whether or not wearable devices have an effect on lifestyle.

During SMRF, everyone above the age of 18 was targeted. The hypothesis was to address if devices have an effect on lifestyle. During the first week of the study, a survey was developed to assess the lifestyle choices of patients in the Rowan Medicine Offices. The survey was administered to 225 people.

The results of the study were not significant. The sample number of patients that actually utilized fitness devices was too small for any analysis. In the future, the goal would be to conduct this study with a greater sample. Ultimately, this study was good to lay foundations in regards to assessing lifestyle choices but it needs to be furthered.

## Background

Lifestyle of the general population is a genuine concern currently. As we progress into this 21st century, our generation is leaning more and more towards processed foods and sedentary lifestyles. From 2007-2012, ultra-processed food comprises about 60% of the calories that are consumed<sup>1</sup>. Along with unhealthy lifestyles, technology has geared the new generation towards introversion. Despite that, not all technology is bad if used in the correct way. Through the SMRF research program, I would like to address whether or not wearable devices have an effect on lifestyle.

Currently there is no research that has been done relating wearable devices and certain factors such as awareness of current habits. The goal would be to administer a survey and see if there are any correlations. There have been studies done which evaluated the wearable devices it only targeted adolescents in the United Kingdom<sup>2</sup>. With this research project, I will be targeting all ages to get a general correlation.

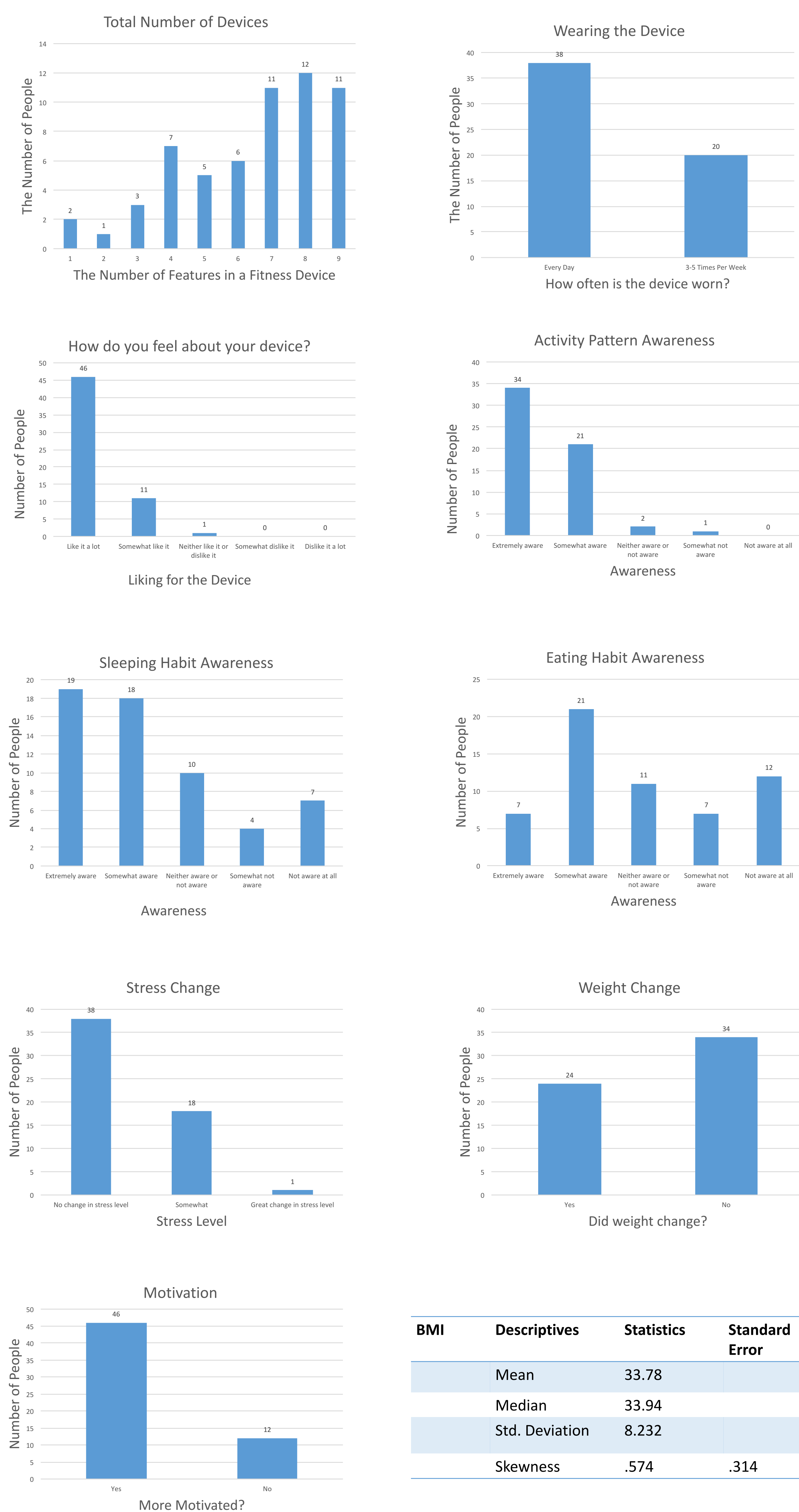
## Methods

This study was a cross-sectional study which was looking at the patient population in the RowanSOM Family Medicine offices during the summer of 2019. The duration of the study will be six weeks which was the duration of the SMRF program. The goal of the study was to achieve a sample size of 250 subjects in order to achieve significance and develop a strong correlation. Subjects will be selected from four Rowan SOM Family Practice offices.

For the first week, a survey was developed via Qualtrics with targeted questions to address the objectives involved and target the relationship that we were trying to define between wearable devices and an individual’s lifestyle. After the survey was developed, it was administered to the RowanSOM offices via three methods including website, QR code, and paper.

With adequate time given for data collection, the data collected was analyzed using SPSS with a statistician for help. This research study posed minimal to zero risk to the patients who will be given this survey.

## Results



## Discussion

For this project, as soon as the data collection was performed, we used the time for statistical analysis. Overall, the results of the study were not significant when analyzing the data. Within the given time frame of 6 weeks, we established a pool of 225 patients. There were a few things that should be changed when the project is repeated in the future.

First, the time of the project needs to be lengthened because that would allow for a greater “n.” The greater number of patients for this project will help to increase the chances of achieving a significant p-value. Second, the next change would be to incorporate more offices or different geographic locations in NJ to target a greater variety in population to generalize the results to adults above the age of 18 in NJ.

Overall, this project was a great foundational project to help understand the benefits and points of improvement for future projects.

## Conclusion

The results of the study were non-significant. Due to the limited data that we had, we were not not able to prove the hypothesis and hence the null hypothesis was accepted.

The averages that were observed for the data for BMI were: mean 33.78, median 33.94, and standard deviation 8.232. Out of the 225 people surveyed, there were 58 people who wore any type of device that tracked fitness related factors. On average, the devices had 6.45 features. From the survey, it was concluded that the people who do wear these devices actually wear them most of the time. Most people wearing the devices are aware of their activity patterns due to the device. Out of the 58 people wearing the devices, 24 people saw weight changes and 34 did not see weight changes.

Importantly, wearing a device has definitely motivated most people to move towards a healthier lifestyle.

## References/Acknowledgments

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2. Kerner, C. & Goodyear, V. A. The Motivational Impact of Wearable Healthy Lifestyle Technologies: A Self-determination Perspective on Fitbits With Adolescents. *Am. J. Health Educ.* 48, 287–297 (2017).
3. Dr. Adarsh Gupta for all the guidance.
4. Rowan School of Osteopathic Medicine for the funding.

BMI	Descriptives	Statistics	Standard Error
	Mean	33.78	
	Median	33.94	
	Std. Deviation	8.232	
	Skewness	.574	.314