USES AND GRATIFICATIONS OF WEARABLE TECHNOLOGY ADOPTION

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APPROVAL

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DEDICATION

This thesis is dedicated to the memory of my six-pound Pomeranian, Mocha Java, who cuddled beside me for many long hours of writing and brought joy to so many people.
I would first like to thank my thesis chair Dr. Shelly Rodgers for her guidance and support throughout this entire process. I could not have asked for a better mentor and am looking forward to keeping in touch in the future. I would also like to thank my committee for their counsel and advice. Words can’t describe how appreciative I am for their additional perspectives and insight. Next, I would like to thank my family for their endearing love and encouragement. I feel very blessed to have such loving parents and grandparents who have invested in my education. My dreams would be unattainable without their constant support and faith in me. Thank you Mom and Grandma Joan for driving with me back and forth from Columbia to St. Louis. It made the drive go by so quickly! Also, I would like to thank my Grandfather Charlie for being my math tutor since sixth grade. I definitely would not have been able to tackle the statistics and results section without the foundational math skills that he taught me; although, while I can find the derivative of a slope or can spit out the quadratic equation by memory, I still can’t calculate tips without a calculator.
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ABSTRACT

This study applies the Uses and Gratifications (U&G) approach and Technology Acceptance Model (TAM) to determine key influencers of wearable technology adoption. Wearable technology (i.e., “wearables”) is defined as any personal device worn on either the body or on clothing, often with data collecting or motion sensing capabilities. The predicted success of wearables is under considerable scrutiny. It is, therefore, vital that innovators and product managers comprehend the prominent drivers of wearable technology use. This study utilized both in-depth interviews and an online survey with wearable technology users 18-34 in the United States (N=387). A principal component factor analysis with varimax rotation was performed, revealing nine gratifications of wearable technology use. Contextual age and gender were significant influencers on the gratifications fulfilled. The outcome of this study revealed that user motives do, indeed, influence one’s perceptions of wearable technology, supporting the integration of U&G and TAM for describing the most important factors of technology adoption. These observations provide important implications for next-step strategies for scholarship and industry.

*Keywords:* Uses and Gratifications, Technology Acceptance Model, Wearable Technology
Chapter 1: Introduction

In a recent report conducted by PricewaterhouseCoopers, 20 percent of Americans own a wearable device; however, only half of those individuals wear their devices every day (Comstock, 2014). Furthermore, nearly 30 percent of the individuals who purchased a wearable device returned the device no more than six months later (Russell, 2013). Despite these statistics, the wearable technology market was predicted to achieve $5.1 billion in revenue by 2015, which is a growth rate of 61 percent (Chmielewski, 2015). Due to the contradicting findings regarding wearable technology, a PEW Research study (Anderson & Rainie, 2014) investigated emerging wearable technologies (i.e., “wearables”), and the growing potential of wearables for brands and consumers. Most of the respondents agreed that wearables will saturate mainstream society by the year 2025; however, results also revealed a great deal of debate about the predicted long-term success of this technology.

Currently, wearables are becoming popular among retail, health care, fashion, communication, and consumer electronic industries (Boxall, 2014). Currently, the success of wearables is limited. No leading brand has gained significant market share beyond attracting early adopters. Because of this, critics believe that wearables are not meeting consumer expectations and will probably suffer a similar fate to that of the calculator watch in the 1980s. On the contrary, proponents believe that if the right wearable successfully integrates into mainstream society, it has the potential to change the way people communicate, search for information, and interact with brands (Anderson & Rainie, 2014). The data-gathering capabilities offered in many wearable devices also
are capable of drastically transforming the way brands and the media reach consumers. Because of wearables’ potential, yet lack of mainstream adoption, product managers and researchers must examine what motivates individuals to adopt wearables in order to ensure this technology’s future success and impact on society.

**Definition of Wearable Technology**

Wearable technology is a broad category of devices ranging from health-tracking bands to smart glasses and watches. Due to the lack of research regarding these devices and their broad classification, it is important to explicitly define wearable technology for the purpose of this study. For the purpose of this research, wearable technology embodies any device that is worn somewhere on the user and has some form of data collecting capabilities or motion sensors. There are wearable devices that are worn on the wrist, ear, feet, and even devices embedded in certain shoes and clothing.

Most, if not all, of the wearable technology falls under the category of information and communication technology (ICT). ICT technologies consist of any technology that facilitates communication and access to information (Chandler & Munday, 2011).

Because of the limited research available about wearable technology, a start to understanding the adoption of wearables is to, first, identify what motivates individuals to adopt past ICTs. As Rodgers and Thorson (2000) note, motives are the primary drivers of information processes and behaviors related to technology, so understanding motives is crucial to advancing research on wearables. This review will reveal insights about the influential factors that affect adoption of several past ICTs with the application of the Uses and Gratifications theory (U&G) (Katz, Blumler, & Gurevitch, 1974) and the
Technology Acceptance Model (TAM) (Davis, 1986). Past U&G and TAM studies have provided in-depth explanations for the adoption of past ICTs including: the adoption of computer-based communication media (CMC) (Zhang, Li, Ge, & Yen, 2012), photo-messaging (Hunt, Line, & Atkin, 2014), video-sharing websites (Cha, 2014), VoIP services (Park, 2010), MP3 players (Zeng, 2011), mobile cloud services (Park & Kim, 2013), and smartphones (Joo & Sang, 2013).

Practical and Theoretical Contributions

Practical importance. The ultimate goal of this study was to determine the key factors that influence adoption of current wearable technologies. This subject matter of technology adoption is important because, no matter how advanced a new technology might be, if no one adopts it – it is worthless. Wearable technology adoption, specifically, is important to understand due to its great potential to change the way individuals communicate with one another, interact with brands, and live their lives. This is because of the data-collecting capabilities of wearable technology and the fact that these devices are physically worn on one’s body. If successfully integrated into society, they have the potential to become the next smartphone, which has also completely changed the field of communication.

Theoretical importance. While there are a number of studies that combine the U&G theory with TAM to describe technology adoption (Joo & Sang, 2013; Park, 2010), in the field of mass communication research, these studies are still very sparse. This study demonstrates the benefits of using these two theories together, providing support for why these theories combined are successful in describing adoption. Additionally, the U&G theory is often criticized because it is such a broad theory and seems to simply repeat
gratifications from study to study. This study seeks to identify more specific gratifications for wearable technology that might serve as an example for future U&G studies.

**Motivations and the Uses and Gratifications Theory**

A motive is a psychological concept separate from the mass communications field. While there are many different contexts in which motives are defined, at its core, motives are generally defined as “the means to be moved to do something” (Ryan & Deci, 2000, p. 54). Motives originate from both innate, instinctual needs (Griskevicius & Kenrick, 2013) and social influence (Wood & Hayes, 2012). It is important to distinguish motives from motivations because both are related psychological concepts that are often used interchangeably. Motives can be described as the “emotion, desire, need, or impulse that acts to incite action” (Bailey & Clegg, 2007, p. 919). Likewise, motivations are the rationale for partaking in a given activity, a “state of being” that requires consciousness (Bailey & Clegg, 2007, p. 919). For the purpose of this study, only the motives behind wearable technology adoption were investigated.

In the field of communication research, the U&G theory is often used to determine the motives behind using a particular medium (Zeng, 2011). Katz et al. (1974) state that the U&G theory examines both social and psychological needs that stimulate the use of media based on the expected gratifications that will be fulfilled from using that media. Motives relate to this theory because they are the preceding factors that influence the *gratifications sought* for using a particular media (Rodgers & Thorson, 2000). Gratifications and motives are mutually exclusive concepts and are not used interchangeably throughout this review.
Gratifications are what the media fulfills within the individual. While motives for using a particular device or media are often revealed through examining the gratifications sought, the U&G approach is also used to measure user satisfaction through examining gratifications obtained. Wang and Zhu (2012) assert that, because gratifications obtained describe the level of how much the gratification was fulfilled, gratifications obtained resemble satisfaction towards use. Thus, the U&G theory can be used to determine both the motives that drive usage of a wearable technology and the level of satisfaction gained from using this technology.

It is also necessary to differentiate content gratifications from process gratifications. Content gratifications are “derived from the mediated messages for their direct, substantive, intrinsic value for the receiver” (Cutler & Danowski, 1980, p. 269). This means that it is the message in the medium, not the medium itself, that fulfills an individual’s gratifications. Likewise, process gratifications are fulfilled simply through the act of using a particular device (Cutler & Danowski, 1980). Analyzing both of these concepts help provide a complete picture of the uses and gratifications for wearable technology.

While there are process and content gratifications, gratifications can also be classified as either instrumental or ritualized use (Rubin, 1983). Instrumental usage stresses utility gratifications and originate to achieve an end-goal (Joo & Sang, 2013; Livaditi, Vassilopoulou, Lougos, & Chorianopoulos, 2003; Rubin, 1983). Contrastingly, ritualized use focuses more on the process than the end-goal. Those using the media for ritualized use seek out gratifications such as relaxation, entertainment, habit, and diversion (Livaditi et al., 2003; Joo & Sang, 2013; Rubin, 1984). Ritualized gratifications
are often also process gratifications while instrumental gratifications are most likely content gratifications (Rubin, 1983). For the sake of this study, the gratifications that result in ritual use will be referred as *ritualized gratifications* and gratifications for instrumental use will be called *instrumental gratifications*.

In addition to the different classifications of gratifications, there are several common assumptions of the theory that must be addressed. The first assumption is that people will use media in different patterns, depending on their current needs and motives. Unlike past mass communication theories, the U&G theory assumes that individuals are *action-oriented* and will select the most fitting outlet that will fulfill their gratifications best (Katz et al., 1974; McQuail, Blumler, & Brown, 1972). Rather than passively consuming media, they are seeking out specific media with purposeful intentions (McQuail et al., 1972). Gratifications are not always specific to only one medium, which implies that many are universal (Lichtenstein & Rosenfeld, 1983). Reoccurring gratifications listed out by McQuail et al. (1972) are personal relationships, diversion, surveillance, and personal identity.

One critique of the U&G theory is that it many of the studies reuse instruments of past U&G studies, resulting in an overlap of gratifications from old media to newer media. Reusing past gratifications of older media indicates that newer media do not allow for additional, unique gratifications. This habit in using gratifications across studies does not broaden our understanding of what new technology might fulfill that past technology does not. It is definitely plausible that individuals seek out new media for similar gratifications as old media but expect the new media to provide greater satisfaction (Sundar & Limperos, 2013); however, without exploring other potential
gratifications, it is not feasible to come to this conclusion. Additionally, Sundar and Limperos (2013) also argue that the overlap is most likely due to the overly broad classifications of gratifications. They suggest an alternative approach to determining gratifications of novel technology, which more specifically defines the gratifications obtained. Furthermore, this particular approach to the U&G framework might also lead to the idea that new gratifications are emerging from media use themselves, not only from our innate needs.

**Technology Acceptance Model**

TAM stemmed from the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975), which is a social psychological theory that seeks to determine the motives behind any behavior. TAM was created to determine the characteristics of “computer-based information systems” and how those characteristics affect adoption (Davis, 1986, p. 42). TAM offers a structural outline for the characteristics that highly influence actual usage of a technology as well as the weight of importance for each. These technology characteristics include perceived ease of use (PEOU), perceived usefulness (PU), and attitudes towards use. Davis (1986) proposed that the attitude an individual holds towards using a particular technology is a “major determinant of whether he (or she) actually uses it” (p. 26). Likewise, Davis (1986) also suggests that PEOU and PU, together, directly influence an individual’s attitudes towards using a given technology. While Davis (1986) found support for a specific dynamic among these three variables, there have been inconsistent findings regarding the magnitude of effect for each. These inconsistent findings will be analyzed later in the review.
The TRA model examines the effect external variables have on behavioral intent to perform a given action; TAM posits that these external variables are mediated through the perceptions of PEOU and PU, making studies of technology adoption more simplified for combining with other theories such as U&G. Additionally, rather than studying one’s behavioral intent to adopt a technology, TAM investigates actual usage of a new technology.

Moreover, TAM was originally created to describe adoption in organizational settings, not for personal use. As a result, other theories have emerged that are also stemmed from TRA, such as the model of adoption of technology in households (MATH) (Brown & Venkatesh, 2005). MATH seeks to describe technology adoption in household contexts and was originally created to describe household adoption of personal computers. While it describes adoption for non-workplace settings, MATH is not a sufficient theory for the purpose of a wearable technology adoption study for two reasons. The first is that it explains adoption patterns for entire households, factoring in “utility for children as a significant variable” (Park, 2010, p. 45). Current wearable technology is not purchased for entire households. Most often, they are purchased for the individual to be used as a personal device. Secondly, MATH only seeks to determine intent to purchase the technology in study without examining the behavioral intent to actually use the technology, much like the TRA model. With wearable technology, many individuals are purchasing the devices due to their popularity; however, many individuals stop using them after having owned the device for a short amount of time. This makes a study that focuses on actual usage vital.
TAM has been underused in the field of communication but has deemed itself a successful theory for analyzing adoption among personal use of past information and communication technologies (Wang, Chung, Park, McLaughlin & Fulk, 2012). While there is a significant amount of technology diffusion research available, there are not many studies that integrate both user motives and factors of technology adoption (Park, 2010). Consequently, TAM is a sufficient theory that, combined with the U&G theory, provides a complete illustration of the components of adoption.
Influencers of Gratifications

Griskevicius and Kenrick (2013) argue that motives originate from innate, instinctual forces that aim to maximize survival. Every motive and, therefore, behavior can be traced back to at least one of seven “instinctual challenges” (Griskevicius & Kenrick, 2013, p. 373). These challenges consist of “evading physical harm, avoiding disease, making friends, attaining status, acquiring a mate, keeping a mate, and caring for family” (Griskevicius & Kenrick, 2013, p. 374). Based on Griskevicius and Kenrick’s (2013) assertions, the behavior of media and technology consumption could also be explained under these contexts. Another implication of Griskevicius and Kenrick’s (2013) study is that different needs are triggered during different contexts and life stages. These implications are similar to that of the assumptions of the U&G theory. Like the U&G theory, it asserts that individuals will behave in a way to best fulfill what innate need is most important at that given time. Because gratifications are formed by motives, this suggests that different demographics and environmental contexts will affect what motives stimulate use of a particular medium.

Several U&G studies make comparisons between the various demographics of individuals to determine which have the most effect on an individual’s motives. García Jiménez et al. (2012) conducted a study on Internet gratifications among adolescents to see if age and gender affected gratifications. Results concluded that gender and age both have a significant effect on gratifications. For example, females were more likely to use the Internet for information-seeking gratifications. Males were more likely to use the
Internet for interpersonal relationships and entertainment. It also found a correlation between age and psychographics. Children who spent less time with family spent more time on the Internet for interpersonal gratifications in order to fulfill the gap made from their lack social interaction at home.

Several other U&G studies investigate the impact psychographics have on gratifications. Additionally, Ishii (2006) conducted a study comparing the usage of various mobile technologies: mobile mail, mobile voice phones, landline phones, and PC e-mail among young adults. Ishii found that the use of mobile mail was negatively correlated with social skills, indicating that younger individuals use mobile mail to replace face-to-face interaction. Ishii (2006) suggested that younger individuals have more social anxiety and need mobile mail as a social crutch until they develop more communication skills with age. Consistent findings from other U&G mobile phone studies (Wei & Lo, 2006) also indicate this similar phenomenon of psychographic patterns. Wei and Lo (2006) surveyed college students to better understand the differences of perceptions and uses for cell phones and landline phones. Wei and Lo (2006) discovered that cell phones are used primarily to strengthen social bonds and overcome social barriers. Those who stated that they felt shy and lonely used their cell phones more often to call loved ones. Papacharissi and Rubin (2000) also surveyed college students to determine the motives of Internet use. Under the context of Internet use, their study revealed consistent findings to supplement the findings found from an examination of mobile devices. Those who had high social anxiety, loneliness, and shyness avoided face-to-face interaction when possible. Likewise, Papacharissi and Rubin (2000) also posit that those who partake in less face-to-face interaction use the
Internet more frequently. They relied on the Internet to fulfill those social weaknesses. These behaviors align with Griskevicius and Kenrick’s (2013) earlier assumptions.

Cutler and Danowski (1980) also studied the differences in gratifications between different age groups. The study examined gratifications for watching political news on cable television. Results concluded that older individuals seek out more process gratifications than younger individuals who seek more content gratifications. Since Cutler and Danowski (1980) only examined one media (cable television) and one specific type of content (political news), it would not be valid to argue that older individuals will always seek out more process gratifications than younger individuals. The only valid conclusion is that age will have a significant effect on gratifications when looking at the same media or device. Similarly, Leung and Wei (2000) studied the uses and gratifications for cell phone usage among younger and older participants, adding psychographics as an additional variable. They found that age, gender, and occupation were the most influential determinants of varying usage patterns. For example, men overall most often used cell phones for instrumental uses while women used cell phones more often on-the-go. Older, less educated participants used cell phones most prominently for social reasons.

Rubin and Rubin’s (1981) concept of contextual age asserts that environmental context might have more of an effect on individuals’ motives than their chronological age. For example, older generations are often less mobile than younger individuals, causing them to stay at home more so than younger generations and seek media to feel connected to society. An older individual who has an active lifestyle more similar to a younger individual might seek gratifications similar to younger individuals compared to someone
more sedentary his or her own age. The contextual age scale is one way to compare and contrast traits of individuals to determine psychological differences that might result in various gratifications, using factors such as “interpersonal interaction, social activity, mobility, life satisfaction, health, and economic security,” in addition to age (Rubin & Rubin, 1981, p. 13). Rubin and Rubin (1982) found that age, however, has a strong positive association with contextual age.

While there are a number of contextual, psychological, and demographic variables that influence gratifications of various information and communication technologies, two consistent factors are age and gender. The literature summarizes the idea that age and gender have a significant effect on the gratifications of information and communication technology. However, rather than measuring age in Papacharissi and Rubin’s study (2000), contextual age was measured in order to determine demographic and psychographic differences among participants due to the narrow age range of the sample. Contextual age has revealed a great deal of insight about how an individual’s traits influence what gratifications he or she seeks (Papacharissi & Rubin, 2000; Rubin & Rubin, 1982). This theoretical foundation determines the first set of hypotheses regarding the adoption of wearable technology.

**RQ1.** What are the uses and gratifications of wearable technology adoption?

**H1.** Gender will have a significant effect on the gratifications of wearable technology.

**H2.** Contextual age will have a significant effect on the gratifications of wearable technology.
Influencers of TAM Variables

Numerous studies have found that individuals prioritize perceived ease of use and perceived usefulness differently based on the gratifications they seek for that particular technology. For example, Park (2010) studied the adoption of computer-based voice over Internet protocol phone services (VoIP) such as Skype and other video-chatting services among online adults. Those who used VoIP services for entertainment and communication did not value usefulness as much as those using it for other reasons. This indicates that those who are looking to socialize and relax do not care if VoIP services are useful for achieving a specific task. Those who use VoIP services for communication perceived the technology as easier to use than those who used the VoIP service for entertainment purposes.

Attitudes towards use are also greatly affected by gratifications. Park and Kim (2013) conducted a study on the adoption of mobile cloud storage services such as iCloud and Google Drive. Connectedness was a common gratification for many users, and this gratification greatly affected attitudes towards use. Those who felt more connected to others from using this service had more positive attitudes towards using the device, usefulness and ease of use aside.

In addition to placing different values on ease of use and usefulness of a given technology, numerous studies have found that those seeking different gratifications of a technology will also have different perceptions of ease of use and usefulness. For example, Joo and Sang (2013) examined the motives of smartphone use applying both the theoretical frameworks of U&G and TAM. Those who sought instrumental gratifications for smartphones had higher perceptions of usefulness than ease of use. In this instance,
instrumental gratifications affected perceived usefulness greater than perceived ease of use. This indicates that when an individual uses a device for instrumental use, they will perceive that device as more useful than they do easy to use. Likewise, those who sought ritualized use for smartphones had greater perceptions of ease of use than perceived usefulness. This indicates that those who seek ritualized gratifications for wearable technology will perceive wearable technology as easier to use than useful.

Based on the literature that indicates that the type of gratification sought will affect one’s perceptions of usefulness and ease of use, a second set of hypotheses has been developed relevant to wearable technology.

**H3.** A positive correlation will be found between those seeking instrumental gratifications and perceptions of usefulness.

**H4.** A positive correlation will be found between those seeking ritualized gratifications and perceptions of ease of use.

**The Dynamic Between Ease of Use and Usefulness**

The TAM theory seeks to explain the influence of perceived ease of use, perceived usefulness, and attitudes towards use on actual usage (Davis, 1986). Multiple studies have tested whether or not perceived ease of use has an influence on perceived usefulness. The reasoning behind that is: if something is easy to use, does that also make it useful to use? Davis (1993) posits that usefulness has four times the influence on adoption than ease of use. This makes understanding usefulness important for encouraging adoption.

Antón, Camarero, and Rodríguez (2013), analyzed the adoption of e-book readers using TAM. The study consisted of two groups of individuals: those who loved to read
but preferred to read a traditional, hard copy novel and those who loved technology and enjoyed being the first to adopt new innovations. Results from both groups indicate that the perceived ease of use of e-book readers has a strong, positive influence on perceived usefulness. This means that those who thought e-book readers would be simple to use also thought that e-book readers would be useful. Contrastingly, those that thought that e-book readers were more difficult to use, found them less useful. Because these two groups were very different in terms of interests and values, the consistency of ease of use’s influence on usefulness between the two groups shows the findings validity. Wang et al. (2012) found similar results with their study of online community participation. In addition to finding that ease of use influences usefulness, they found that in some cases, once the action is perceived as useful, individuals might no longer “see it as an effortless behavior” (Wang et al., 2012, p. 796). More research needs to be conducted to support this cyclical interaction. However, in regards to ease of use and its influence on usefulness, other TAM studies simply assume that perceive ease of use directly affects perceived usefulness (Zhang et al., 2012).

The large amount of research that both tests and assumes that the ease of using a technology will affect its expected usefulness indicates that ease of use will always affect how useful the technology is perceived. These revelations inspired the fifth hypothesis about the perceptions of wearable technology use.

**H5.** The easier someone thinks that wearable technology is to use, the more useful wearable technology will be perceived.

In addition to Joo and Sang (2013) finding that instrumental and ritualized gratifications affect perceptions of ease of use and usefulness, past literature also suggests
that instrumental gratifications are more influential in driving use than ritualized gratifications. First, the literature posits that instrumental gratifications have a positive, significant effect on perceived usefulness. Davis (1993) suggests that perceived usefulness is significantly more influential on impacting attitudes towards use than perceived ease of use is, which means that perceived usefulness is more influential in determining adoption. Since instrumental gratifications are more influential on perceived usefulness than ritualized use, this also indicates that instrumental gratifications will have a greater affect on actual use of wearable technology than ritualized gratifications.

Other studies provide further rationale for a similar prediction. Joo and Sang (2013) also found that instrumental gratifications for smartphones had greater perceptions of both usefulness and ease of use than those who sought ritualized use overall. Because TAM assumes that PEOU and PU together make up attitudes towards use and instrumental gratifications result in greater levels of these two perceptions, it can then be asserted that instrumental gratifications will affect attitudes towards use more so than ritualized gratifications. Because Davis (1986) posits that attitudes towards use is the most direct influencer of actual usage, this indicates that instrumental gratifications will also have a greater impact on actual usage.

In comparison, an earlier study on mobile phones (Leung & Wei, 2000) found similar results that also support Joo and Sang’s (2013) conclusions. Under the theoretical context of U&G, Leung and Wei (2000) utilized telephone surveys to better understand the uses and gratifications for cell phone use among adults 18 and over. Results indicated that instrumental use was the most significant driver of cell phone usage, compared to uses that could be classified as ritualized (sociability, relaxation, and entertainment). In
this particular study, Leung and Wei (2000) determined the most significant drivers of adoption by determining which gratifications yielded the greatest total calls made and received on a typical day.

Leung and Wei (2000) do not operationally define actual usage the same way as Joo and Sang (2013) did under the application of TAM; however, frequency of use was still a reliable measure for determining which gratifications were the most prominent drivers. While they both used differing theories and procedures, the results are cohesive. These two findings lead to the fourth set of hypotheses.

H6. There will be a significant positive correlation between those who seek instrumental gratifications of wearable technology and attitudes towards use.

H7. There will be a significant positive correlation between those who seek instrumental gratifications and actual usage.

The Scope of Ease of Use

While numerous studies indicate that perceived ease of use has a direct effect on usefulness, there is still large debate over whether or not perceived ease of use directly affects attitudes towards use (Wang et al., 2012). Some studies infer that its influence is only limited to perceived usefulness. However in the original model, Davis (1986) posits that ease of use has a direct influence on attitudes towards use. Furthermore, Davis (1993) also studied the adoption of computers as means for communication in work environments using a survey among working professionals. The study supported his original model of perceived ease of use and usefulness each having a direct effect on attitudes. Similar recent studies also support the idea that perceived ease of use directly affects attitudes towards use. For example, Cha (2014) examined the adoption of video-
sharing websites such as YouTube and Vevo. With video-sharing websites, perceived ease of use had just as much of an effect on attitudes than perceived usefulness. This means that those who think it easy to watch and upload videos onto these sites will have more positive attitudes about using YouTube and Vevo. Ease of use in this situation had a greater influence on attitudes than it did with the adoption of computers-mediated technology (Cha, 2014; Davis et al., 1989; Davis, 1993). One indication for this result might be due to the fact that users spend a great deal of time on the website and, therefore, need it to be easy to use so that they do not waste time figuring out how the site works. This means that the greater the time and effort spent using a device, the more important it is for the device to be simple to use. For encouraging adoption of a technology that requires high frequency of use, perhaps ease of use is more of an important factor on attitudes.

Looking from a different perspective, Davis et al. (1989) suggest that perceived ease of use is more important at the beginning of the adoption period. Their study was a quasi-experimental design that looked at the adoption of the WriteOne program among MBA students. At the beginning of the semester, students went through an orientation of the program where they took a survey that measured their intentions to use WriteOne. After 14 weeks into the semester, students took the same survey. While perceived ease of use had equal influence as usefulness at the time of orientation, its influence dramatically decreased at the end of the semester. They attributed this result to the fact that individuals had gained more experience using the program throughout the semester and no longer gave much thought to the difficulty of using WriteOne. This means that once adopted, perceived ease of use decreases in importance overtime.
Perceived usefulness remained a steady and significant influencer throughout the semester, which indicates that usefulness will always have an effect on attitudes towards use and actual usage. Davis et al. (1989) also suggest that MBA students have higher performance goals when using the program than others might have when using other technology. It can be assumed that in other similar situations when individuals are highly ambitious and need to achieve high goals, usefulness will consistently have a greater importance over time. This asserts the importance of context, motives, and individual characteristics in prioritizing these TAM variables.

In contrast, some adoption studies find that perceived ease of use does not ever have a direct effect on attitudes (only an indirect effect through usefulness). This was the case for Wang et al. (2012) who conducted an online survey among online community users to better understand the factors that influence online community participation. The study revealed that perceived ease of use did not have a direct effect on attitudes towards use for online community participation. The extent of its influence only reached that of influencing usefulness. However, the study sample was limited to only individuals who are already participating in online communities. It would be interesting to determine whether PEOU would have a greater affect on encouraging a non-user to participate (Wang et al., 2012).

Because recent technology is multifaceted and used for a variety of purposes, it is not practical to determine a concrete conclusion about whether or not perceived ease of use will have a direct effect on attitudes. The various conclusions that are inconsistent and oftentimes, contradicting posit that the context of use will have a significant effect on whether or not ease of use is equally or more significant than usefulness in adoption and
whether or not it directly affects attitudes. Many of these studies examine the adoption for technology used for work and achievement purposes, which inflates the importance of usefulness as a motivating factor. For example, high-achieving MBA students from the Davis (1989) experiment had to use the WriteOne program regardless of its perceived ease of use, to reach success in their program. The video-sharing website study (Cha, 2014) suggested that ease of use was equally important than usefulness in the adoption of these websites. This was a situation in which the gratifications for using video sharing websites were most likely for entertainment and relaxation, suggesting that ease of use will have a direct effect on attitudes when ritualized gratifications are sought.

Because wearable technology is worn on the body, it can be assumed that this technology will also have a high frequency of use. Additionally, because of the diverse functioning of wearable technologies, it is also logical to assume that users will be using the technology for both work and leisure. Due to the literature that reveals that perceived ease of use has a more direct effect on attitudes towards using a technology used for leisurely purposes, this provides rationale for the last hypothesis.

**H8.** For wearable technology adoption, perceived ease of use will directly affect attitudes towards use.
Chapter 3: Methodology

Wearable technology is currently a burgeoning area of research in the communications industry; therefore, two methodologies were implemented. This two-step process helped gain additional insight into this novel industry while providing an accurate representation of wearable technology use. The first of the two methodologies was a series of in-depth interviews. After these interviews were completed, a survey was conducted. It was important to conduct the interviews first, because they served as an exploratory method in developing the survey. The survey then served as the primary method in determining the most significant factors that influence wearable technology adoption.

In-Depth Interviews

The literature has developed a lengthy list of gratifications such as: personal relationships/companionship, diversion, surveillance, personal identity, information seeking, connectivity, mobility, communication, convenience/immediate access, style/status, interactivity, utility, relaxation/pass time, control, and entertainment (Joo & Sang, 2013; Leung & Wei, 2000; McQuail, et al., 1972; Papacharissi & Rubin, 2000; Zeng, 2011). However, when these gratifications are applied to a new context, there is a danger that additional gratifications could be obtained. The interviews were a necessary procedure to validating these claims. For example, several wearable devices have health-tracking capabilities that allow individuals to monitor their heart rate, number of steps, and daily caloric intake, making health monitoring an additional gratification unique to these devices. Therefore, a series of eight semi structured in-depth interviews served as a
precursor to the survey to ensure that any additional gratifications were included. The interviews also provided insight into which gratifications of past technologies were irrelevant and excluded from the study. For example, the interviews did not indicate that surveillance and relaxation were potential gratifications that drive wearable technology usage. A few potential new gratifications emerged from the interviews such as health tracking, sleep tracking, employee benefits, and feelings of accomplishment.

The semi structured in-depth interviews consisted of a series of already established questions that also allowed the researcher to probe for any additional details provided a higher level of insight into the specific motives that drive wearable technology adoption (Creswell, 2014). The in-depth interviews investigated the motives behind using wearable technology by asking questions such as: “What are the reasons you use wearable technology?” for those who own a wearable device and “Why would you think someone would use wearable technology?” for those who do not own a wearable device (Zeng, 2011, p. 101). These questions were derived from Zeng’s (2011) study on MP3 player usage; however, they were tailored for wearable technology adoption specifically.

**In-Depth Interviews Sample**

**Participants.** For the in-depth interviews, a convenience sample of 18-to 34-year-old males and females who currently reside in the Midwestern region of the United States were recruited through Facebook. According to Charness and Boot (2009), young adults are often the first to acquire new innovations, ensuring a large population of individuals who have adopted and are aware of wearable technology.

**Recruitment.** A snowball sample was utilized for the purpose of these in-depth interviews. With the snowball sample, the researcher recruited one to two individuals
who then directed the researcher to one to two more individuals (Wimmer & Dominick, 2014). This process continued until the researcher collected a total of eight in-depth interviews. Each interview lasted approximately forty-five minutes.

**Survey**

The online survey served as the primary method for making predictions into the most influential factors of technology adoption. Likewise, surveys are generally used as the primary method in TAM and U&G studies. Online surveys are beneficial, because they are both convenient for the participants and allow for a large sample size (Creswell, 2014). Additionally, surveys are helpful with generating insight into the attitudes, beliefs, and behaviors of individuals pertaining to different topics (Wimmer & Dominick, 2014). The survey was created using the University of Missouri’s Qualtrics account, which is a survey composition tool used commonly for uncovering academic insights (Qualtrics: About Us, 2015). Prior to launching the final online survey, a pilot study was conducted through Facebook to test all survey instruments and wording of the questions. The final survey was distributed through Amazon Mechanical Turk (MTurk). MTurk is an online network affiliated with Amazon.com that compensates its users, also known as “workers,” with Amazon credit for completing different tasks (Amazon Mechanical Turk: FAQ, 2015).

The purpose of the survey was to examine past gratifications mentioned during the in-depth interviews, as well as any new gratifications found from the interviews. Additionally, the second half of the survey measured the TAM variables (PU, PEOU, attitudes towards use, actual usage) and their degree of influence on wearable technology adoption. Furthermore, the survey examined the participants’ demographic and
psychographic traits such as age, gender, and contextual age (Rubin & Rubin, 1981). According to Wimmer and Dominick (2014), it is best to leave the demographic and psychographic questions for last. Lastly, the survey was limited to twenty minutes in length to optimize response rate (Wimmer & Dominick, 2014).

**Survey Sample**

**Participants.** For the purpose of the study, both male and female MTurk workers aged 18 to 34 and residents of the United States were recruited to take the online survey. Earlier, it was discussed that younger individuals are more likely to adopt the latest technologies (Charness & Boot, 2009); thus, the millennial generation is more likely to have proficient knowledge of wearable technology. MTurk settings allowed the researcher to make the survey, also known as a “HIT,” only available to users in the United States. In order to ensure that participants were within the millennial age range, the recruitment materials were adjusted, which is described in the following section.

**Recruitment.** Individuals within the research population who have an MTurk account were invited to take the survey through an email notice sent through MTurk. Settings in MTurk were adjusted to ensure that only individuals who lived in the United States would see the “HIT.” It explained that only those who complete the entire survey would receive financial compensation in the form of Amazon.com credit.

After conducting the pilot study, 13 respondents (44.8%) were not wearable technology users. Additionally, six individuals (20.6%) were over the age of 34. Because MTurk does not allow researchers to limit HITs to only individuals of a particular demographic, the recruitment and consent materials were slightly altered to ensure that individuals who did not meet the survey criteria self-filtered out. Specifically, both the
recruitment email and consent letter asked that only individuals between the ages of 18 to 34 and either owners or past users of wearable technology partake in the study. With this request, a definition of how wearable technology was defined for the purpose of the study was also included:

“For this study, wearable technology is limited to devices that are worn on the body with some form of data collecting or motion sensing capabilities. Examples of these wearable devices include fitness bands (Fitbit, Jawbone, Vivofit, etc.), people-tracking devices, smart glasses (Google Glass), smart clothing, and smart watches (Apple Watch, Samsung Watch, Microsoft Band, etc.).”

These changes allowed for a transparent explanation of the necessary criteria for completing the survey among the MTurk population.

**Calculating sample size.** To ensure validity, it is important to achieve a 95 percent confidence level with a margin of error of +5 (Creswell, 2014). In addition to having a desired margin of error, it is also necessary to know the size of the population. According to the Vespa, Lewis, and Kreider (2013), there are approximately 71.3 million individuals 18 to 34 living in the United States. To achieve this level of confidence, it was necessary to obtain a sample size of at least 384.

**Pilot study.** A pilot study was conducted to ensure that the survey items are adequate measures of the multiple variables in the study prior to distributing the survey on MTurk. Participants for the pilot study were recruited through a letter posted on the researcher’s Facebook timeline.

**Screener.** While the recruitment and consent materials were altered to explicitly ask participants to only partake in the survey if they are between the ages of 18 to 34 and
either current owners or users of wearable technology, it was important to also include a screener to filter out anyone who overlooked the mentioned criteria. The first question of the screener ensured that those participating in the survey were between the ages of 18-34.

How old did you turn on your last birthday?

1) 18-24
2) 25-34
3) 35-50
4) 51+

Those that selected options 3 or 4 were taken directly to the end of the survey where they were notified that they did not meet the criteria mentioned in the recruitment materials and were unable to complete the survey. Additionally, a second screener question was included to filter out those who were not familiar and have not used wearable technology. The question stated, “Do you currently own or have you used a wearable device?” Those that selected “no” were also taken to the end of the survey with the latter message. In both scenarios, individuals were not granted the code for financial compensation because they were unable to complete the entire survey as explained in the letter of consent.

MTurk workers are also notified that “a Requester [researcher] may reject your work if they believe the answer is wrong, the HIT was not completed correctly, or that the instructions were not followed” (Amazon Mechanical Turk: FAQ, 2015).

Survey Measurement

U&G. Gratifications selected from the in-depth interviews were tested in the survey. Using past U&G studies as a framework for examining wearable technology gratifications, each gratification was measured with at least three items. Each item
consisted of a Likert Scale with different statements that inquire the extent to which the respondent agrees or disagrees. A response of 1 indicated strongly disagree and a 5 indicated strongly agree.

**TAM.** TAM is a linear model that seeks to predict actual usage of a given system. The model includes four factors: perceived ease of use, perceived usefulness, attitudes towards use, and actual usage. The instruments used in Davis (1986) and Davis et al. (1989) were used because these survey instruments have served as valid and reliable measures for determining technology adoption factors. However, to ensure that these instruments remain reliable in the context of this study, Cronbach’s alpha was still computed for each measure.

**Perceived ease of use (PEOU).** The operational definition of perceived ease of use is: “The degree to which an individual believes that using a particular system would be free of physical and mental effort“ (Davis, 1986, p. 26). PEOU will be measured as a four-item scale used in past research (Davis, 1986; Davis et al., 1989). The four items were: “Learning to operate wearable technology is easy for me,” “I find it easy it get wearable technology to do what I want it to do,” and “It is easy for me to become skillful at using wearable technology.” To maintain attention among participants, a reverse measurement was used as the fourth item, which stated: “I do not find wearable technology easy to use.” If a participant responded, “strongly agree” to all of these statements, including the latter, it is possible that the individual did not pay attention to the questions. Reverse measurements were used throughout the entire survey. Together, these four items were supported as reliable measures of PEOU ($\alpha=0.87$).
**Perceived usefulness (PU).** Davis (1986) operationally defines perceived usefulness as “the degree to which an individual believes that using a particular system would enhance his or her performance.” (p. 26). PU was measured using a four-item scale. Davis (1986) originally made the usefulness scale to determine employee productivity among computer-mediated communication in the workplace. However, for the context of wearable technology adoption, a few modifications were made to these items due to two reasons. The first is that wearable technology embodies devices that serve many different functions, such as tracking health and fitness goals, communication, and security. Additionally, wearable technology can be used for both work and personal usage. Therefore, the four items were statements such as “Wearable technology will improve my lifestyle,” “Wearable technology will increase my productivity,” “Wearable technology will help me achieve my personal goals.” “I find wearable technology useful.” These items were also supported as reliable measures of PU ($\alpha=0.69$).

**Attitudes towards use.** Attitudes towards use is operationally defined as the level of “evaluative effect” that a user holds towards using a particular system (Davis, 1986, p. 25).

To determine attitudes towards use, five-point Semantic Different scales were implemented:

All things considered, using wearable technology is:

Neutral

Bad : __ : __ : __ : __ : Good


Unfavorable : __ : __ : __ : __ : Favorable
Harmful :__:__:__:__: Beneficial
Negative :__:__:__:__: Positive

These five items were originally used in the original study comprised by Davis (1986). These five items also utilized reverse measurements to ensure the research participant read each question carefully. Cronbach’s alpha indicated that these items together reliably measure attitudes towards using wearable technology ($\alpha=0.85$).

**Actual usage.** Davis (1986) uses the operational definition of actual usage from Fishbein and Ajzen’s (1975) TRA. Fishbein and Ajzen (1975) operationally define actual usage as “repeated, multiple-act behavioral criterion” specific to using a particular technology (p. 353). This indicates that actual usage for this study did not reflect an individual’s one-time use of wearable technology. It instead reflected a habitual measure of usage in respect to how often an individual wears their device. Actual usage was measured using two items that asked about the frequency in which participants use their wearable device. The first question included a five-point Semantic Differential scale with frequent at one end of the spectrum and infrequent at the other (Davis et. al, 1989). Additionally, because wearable technology use is often categorized as sporadic, meaning that individuals often wear their devices for long periods of time while also stopping for another time frame, an additional five-point Semantic Differential scale was added with sporadic at one end of the spectrum and consistent at the other.

How often do you use wearable technology?

Frequent :__:__:__:__: Infrequent

Consistent :__:__:__:__: Sporadic
The two items above represent the actual usage measure for wearable technology and scored a high reliability value (α=0.80). Additionally, a third question that measures frequency of use was added to the survey to provide additional perspective, but was excluded from the TAM measure of actual usage. The question was a multiple-choice question asking how often they wear their device. Responses will include: “I wear my device 7 days each week; I wear my wearable device 4 to 6 days of the week; I wear my wearable device 1 to 3 days of the week; I wear my wearable device less than one day each week; I do not own a wearable device.” These categories were mutually exclusive to ensure accuracy and limit confusion in responding to the question (Wimmer & Dominick, 2014).

**Psychographic and demographic traits.** Because the literature posits that psychographic and demographic traits are significant influencers of the uses and gratifications of a particular technology, this study also measured these components to determine their level of influence. The psychographic traits collected will include the contextual age scale (Rubin & Rubin, 1981). Gender is the only demographic trait that was measured because the literature revealed gender as a major component in predicting the most important factors of adoption. Providing insight into how these traits affect the factors of adoption will provide a deeper analysis for the wearable technology industry.

While age has been found as an influential factor in uses and gratifications research, this particular study investigated usage patterns among millennials, making the age range of these participants narrow and potentially insignificant. Therefore, contextual age served as an alternative factor that will help determine psychological differences amongst this age cohort. Rubin and Rubin’s (1981) contextual age scale was used to
determine life stage and position. Papacharissi and Rubin (2000) argue that some
measures should be excluded when assessing contextual age among college-aged
individuals. These measures include: physical health, social activity, and interpersonal
interaction. However unlike Papacharissi and Rubin (2000), social activity was included
in this study, because it is plausible that millennials exhibit significantly different levels
of social activity. The remaining variables of contextual age that were measured in this
study include: economic security, life satisfaction, and mobility.

Each component contained three items. For economic security, the following
statements were listed: “I have no major financial worries;” “I have enough money to buy
things that I want, even if I do not need them;” “I live quite comfortably now and have
enough money to buy what I need or want,” (Rubin & Rubin, 1982, p. 6). Statements for
mobility included: “I usually drive my own car or use the city bus to get around;” “I have
to rely on other people to take me places;” “I usually don’t travel more than a few blocks
from my house each day” (Rubin & Rubin, 1982, p. 5). The first two items for mobility
were reversed coded to retain attention from participants. Life satisfaction statements
included: “I find a great deal of happiness in my life;” “I’ve been very successful in
achieving my goals in life;” “I am very content and satisfied with my life” (Rubin &
Rubin, 1982, p. 5). Lastly, the statements that measured social activity included: “I often
travel, vacation, or take trips with others;” “I often visit with friends, relatives, or
neighbors in their homes;” “I often participate in games, sports, or activities with others,”
(Rubin & Rubin, 1982, p. 5). Respondents stated the degree to which they agree or
disagree using a Likert scale (1=strongly disagree, 5=strongly agree).
The responses were then summed, providing a contextual age score to each participant (Papacharissi & Rubin, 2000). For contextual age (α=0.85), each of its components also scored high reliability values such as mobility (α=0.63), life satisfaction (α=0.90), social activity (α=0.78), and economic security (α=0.93). Due to the high reliability values, items were not deleted from the contextual age elements as was stated as a statistical technique in Papacharissi and Rubin’s (2000) study. In addition to contextual age, it was important to also inquire about each participant’s gender, using a simple nominal scale question including the responses, male, female, and prefer not to respond.

Statistical Analysis

**Internal Reliability.** To ensure that each component of this study measured what it intends to, Cronbach’s alpha was calculated for each TAM and U&G measure. Cronbach’s alpha (α) is a measure of internal consistency that indicates the degree of reliability for variables made up of several items (Cronk, 2012). In order to use Cronbach’s alpha, items must be at either the interval or ratio scale. This is regular practice for TAM studies (Davis et al., 1989) as well as a standard uses and gratification procedure.

**RQ1.** To begin investigating which gratifications are the most significant in influencing adoption, a principal component factor analysis with varimax rotation was conducted. This statistical test was implemented in past U&G studies to group the items used to measure gratifications of wearable technology into separate factors. It was also used to reduce any redundant items from the study. It can be assumed that the factors with eigenvalues greater than 1 are significant gratifications of wearable technology.
(Zeng, 2011). It was also required that the items had a primary loading of at least 0.50. Items were also checked to make sure they did not double load. Once, the factor analysis was conducted and Cronbach’s alpha was calculated, the corresponding items were averaged together to create an index for each factor. Additionally, correlation measures occurred to provide insight into which, if any, gratifications share overlap.

**H1.** To determine the effect gender has on the gratifications for wearable technology, an independent samples t-test was conducted. Independent samples t-tests are utilized to compare means of two mutually exclusive samples. For an independent samples t-test, the dependent variable should be measured as an interval or ratio scale and the independent variable should only include two discrete levels (Cronk, 2012). In this instance, the independent variable is gender. The factors that emerged from the exploratory factor analysis were computed into new variables and inputted as dependent variables in this t-test.

**H2.** The variables mobility, life satisfaction, economic security, and social activity were added together to compute a new variable labeled “Contextual Age Sum” for each participant. Once contextual age sum was computed, a simple linear regression was performed to identify the relationship of contextual age and gratifications of wearable technology. Simple linear regressions allow for predicting the change in the dependent variable based on a change in one independent variable (Cronk, 2012). According to Cronk (2012), simple linear regressions assume that the independent variable is measured as interval or ratio scale, the dependent variable is normally distributed, and the relationship is linear. The coefficient of determination ($R^2$) indicates the magnitude of effect that the independent variable has on influencing the dependent
variable. For example, a higher $R^2$ indicates a greater influence on the dependent variable (Cronk, 2012). Additionally, each component of contextual age was independently inputted as predictor variables in the regression for each factor to investigate of the individual components influence gratifications of wearable technology.

**H3 and H4.** The first step of investigation for hypotheses three and four required a computation of instrumental gratifications and ritualized gratifications. The factors that emerged were categorized as either ritualized or instrumental based on the definition provided by Rubin (1984) and Livaditi et al. (2003). Joo and Sang (2013) also used this same definition when categorizing usage of smartphones into instrumental and ritualized usage. Then, the corresponding factors were averaged together to compute the two variables. In order to identify a positive correlation between instrumental and perceived usefulness, a simple linear regression was computed. High values of $R^2$ identified a strong positive correlation. The same procedure was used for determining the presence of a correlation between ritualized gratifications and perceived ease of use.

**H5.** To determine the effect PEOU has on PU, a simple linear regression was conducted. PEOU served as the independent variable while PU was inputted as the dependent variable. The coefficient of determination was also examined to determine the magnitude of influence PEOU has on PU.

**H6 and H7.** To determine if a significant positive correlation is present between those who seek instrumental gratifications and attitudes towards wearable technology, a simple linear regression was conducted. The same process occurred for H7 to determine the correlation between those seeking instrumental gratifications and actual usage.
**H8.** To determine the effect PEOU has on attitudes towards use for wearable technology, a simple linear regression was also performed. This provided insight as to how PEOU influences attitudes toward use.
Chapter 4: Results

Pilot Study

The pilot study was distributed through a message and link to the survey on the researcher’s Facebook timeline, making it a convenience sample of 36 online Facebook users. Seven participants (19.4%) dropped out mid-survey for unknown reasons. Due to the relatively low dropout rate for online surveys (Mirta, 2006), there were no major adjustments made to the length of the survey for the final study. Once the data was downloaded from Qualtrics and transferred to SPSS, any “prefer not to respond” or skipped questions were dropped from the data set. Individual scale items were reverse coded so that a lower value indicated a negative response and a higher value indicated a positive response (see p. 26 for a description of variable transformations). Then, descriptive statistics were conducted to determine the demographic characteristics among the sample. Nineteen respondents (65.5%) were between the ages of 18-24. There were four individuals (13.8%) between the ages of 25 to 34. The remaining six respondents (20.6%) were over the age of 34. The majority of sample participants were female \( n = 22, 75.9\% \) and seven were male (24.1%). Because of the small population of the pilot study, the survey included both those who currently own and those who do not currently own wearable devices. Therefore, 16 participants (55.2%) were wearable device owners and 13 participants (44.8%) were non-owners. These insights supported the need for a screener and more explicit instructions in the consent and recruitment materials as described on page 24.
Individuals were prompted to provide their specific wearable device with an open-ended question, consisting of six categories: smartwatches (1), smartglasses (2), fitness-tracking devices (3), smartclothing (4), security devices (5), and combination (6). The combination category entailed individuals who own two or more devices (i.e. Apple Watch and Fitbit). For the pilot study, of the participants who owned a wearable device, 12 participants owned fitness-tracking devices (80.0%) and three participants owned smartwatches (20.0%). Twelve participants (75.0%) wore their device seven days each week on average. Three individuals (18.8%) wore their devices between four and six days each week, and only one individual (6.3%) wore their device less than one day each week. Following the procedures to determine demographic sample characteristics, the statistical procedures described on page 31 were conducted starting with Cronbach’s alpha to ensure that the survey instruments were reliable measures.

**Final Study**

**Sample demographics.** The same process that occurred during the pilot study to clean and prepare the data was performed. A total of 459 individuals attempted to participate in the study. Of those individuals, 72 (15.69%) were screened out for not meeting the survey criteria. There were 215 male participants (56.4%) and 166 female participants (43.6%). Three hundred and seven participants (79.3%) were between the ages of 25 to 34. The remaining 80 participants (20.7%) were between 18 and 24 years old. One hundred percent of those who completed the survey were current owners or had previously used some form of wearable technology, meaning that the screener ensured that all participants had knowledge of wearable technology. The majority of participants owned a fitness-tracking device ($n = 219, 56.9\%$). Other forms included the smartwatch
(n = 140, 36.4%), combination (n = 20, 5.2%), smartglasses (n = 5, 1.3%), and smartclothing (n = 1, 0.3%). One hundred and seventy seven participants (45.9%) wore their device(s), on average, seven days each week. One hundred and sixty eight participants (43.5%) wore their device(s) four to six days each week. Lastly, thirty-five respondents (9.1%) wore their device(s) one to three days each week, and five respondents (1.3%) wore their device(s) less than one day each week. Only one individual (0.3%) stated that they did not wear their wearable device.

**RQ1.** A principal component factor analysis with varimax rotation was conducted using all of the items related to the uses and gratifications (U&G) of wearable devices. Factors were grouped together based on the procedures described in the statistical analysis section on page 31. The analysis yielded ten factors with eigenvalues greater than or equal to 1.00 explaining 68.25% of the total variance. After grouping the variables and excluding any factors that only contained one item, an index was created for each of nine factors that emerged from the procedure (as shown in Table 1): employee benefits, sleep tracking, feelings of accomplishment, habitual, fashion/status, enjoyment, community, health improvement, and mobility/connectivity. The corresponding items were summed and divided by the total number of items per factor to create an index for each factor. According to Wang, Rohrer, Chuang, Fujiki, Herman, and Reinke (2015), it is assumed that the items are normally distributed when summed or averaged scores are used to create a construct.

<input table 2 here>

<input table 3 here>
H1. To determine how gender influences the gratifications that drive wearable technology adoption, an independent samples t-test was conducted (see page 32). The t-test revealed that two gratifications differed in influence based on gender, which were feelings of accomplishment and health improvement. Males and females differed significantly in their usage of wearable technology on feelings of accomplishment ($t(379) = -3.48, p = 0.001$). Females ($M = 3.44, SD = 1.10$) were more likely to use their wearable devices to feel accomplished than males (3.04, $SD = 1.14$). There was also a significant difference between males and females for Factor 2 (health improvement) ($t(379) = -4.67, p < 0.001$). Females ($M = 4.06, SD = 0.69$) were more likely to seek the health improvement gratification than males ($M = 3.65, SD = 0.95$). Additionally, there was borderline significance for Factor 1 (mobility/connectivity) ($t(379) = 1.91, p = 0.06$). That is, males ($M = 3.01, SD = 0.10$) were more likely to use wearable technology for mobility/connectivity than females ($M = 2.81, SD = 0.98$).

H2. The contextual age score mean for the total 384 participants was 42.78 ($SD = 8.20$). When looking at the descriptive statistics for each individual component, mobility had the highest mean ($M = 4.05, SD = 0.86$), followed by life satisfaction ($M = 3.90, SD = 0.83$), social activity ($M = 3.34, SD = 1.01$), and economic security ($M = 2.98, SD = 1.13$). To examine how contextual age influenced the gratifications of wearable technology, a series of simple linear regressions were conducted. The first set of regressions evaluated whether the overall contextual age sum predicted each gratification of wearable technology. Results revealed a significant influence for contextual age sum for eight of the nine factors. Data suggested that sleep tracking (Factor 8) appeared to be the only gratification that was not significantly predicted by contextual age sum, except
when social activity was an individual predictor \(F(1,382) = 6.56, p < 0.05\) with an \(R^2\) of 0.02. In order to provide a better illustration of how contextual age influenced the gratifications of wearable technology, each component of contextual age (mobility, life satisfaction, social activity, and economic security) was examined individually. Therefore, second a set of simple linear regressions was performed, inputting each of these components as predictor variables.

Factor 1 (connectivity/mobility) was significantly predicted by contextual age sum \(F(1,382) = 28.47, p < 0.001\) with an \(R^2\) of 0.07. The gratification connectivity/mobility was equal to \(1.56 + 0.03(\text{contextual age sum})\). This means that for every unit increase in contextual age sum, connectivity/mobility of wearable technology increased by 0.03. In addition to Factor 1 being predicted by the overall contextual age sum, life satisfaction \(F(1,382) = 15.63, p < 0.001\), social activity \(F(1,382) = 35.52, p < 0.001\), and economic security \(F(1,382) = 24.07, p < 0.001\), with an \(R^2\) of 0.04, 0.09, and 0.06 respectively, also served as a significant predictors of Factor 1 when examined individually.

Factor 2 (health improvement) was significantly predicted by contextual age sum \(F(1,382) = 10.65, p = 0.001\) with an \(R^2\) of 0.03. The level of the health improvement gratification for wearable technology was equal to \(3.09 + 0.02(\text{contextual age sum})\). This indicated that with every increase in one unit for contextual age sum, the participants increasingly used wearable technology for health improvement by 0.02. When looking at each component independently, significant predictor variables of Factor 2 included life satisfaction \(F(1,382) = 8.88, p < 0.01\) and social activity \(F(1,382) = 16.85, p < 0.001\) with an \(R^2\) of 0.02 and 0.04, respectively.
Factor 3 (community) was predicted by contextual age sum \((F(1, 382) = 17.78, p < 0.001)\), with an \(R^2\) of 0.04. The community gratification of wearable technology was equal to \(1.40 + 0.02(\text{contextual age sum})\), meaning that for individuals who increased in contextual age sum by one unit, the community gratification also increased by 0.02. Life satisfaction \((F(1,382) = 11.59, p = 0.001)\) and social activity \((F(1,382) = 27.49, p < 0.001)\) with \(R^2\) of 0.03 and 0.07, respectively, were both significant predictors of community when analyzed independently.

A similar prediction occurred for Factor 4 \((F(1,382) = 19.87, p < 0.001)\) with an \(R^2\) of 0.05. The enjoyment gratification was equal to \(3.07 + 0.02(\text{contextual age sum})\). For every increase in contextual age sum, the enjoyment gratification for wearable technology increased by 0.02. Mobility was found as a significant, positive predictor of enjoyment \((F(1,382) = 4.15, p < 0.05)\) with an \(R^2\) of 0.01. Positive correlations were found between life satisfaction \((F(1,382) = 15.47, p < 0.001)\), social activity \((F(1,382) = 18.32, p < 0.001)\), and economic security \((F(1,382) = 5.90, p < 0.05)\) with an \(R^2\) of 0.04, 0.05, and 0.02, respectively.

Factor 5 (fashion/status) was significantly predicted by contextual age sum \(F(1,382) = 9.05, p < 0.01\) with an \(R^2\) of 0.02. The prediction of Factor 5 was equal to \(1.56 + 0.02(\text{contextual age sum})\). In other words, as contextual age sum increased by one unit, fashion/status increased as a gratification of wearable technology by 0.02. Mobility was found to have a negative correlation with the fashion/status gratification \((F(1,382) = 4.03, p < 0.05)\) with an \(R^2\) of 0.01. As individuals became more mobile and were able to more independently get around, the less they used wearable technology for fashion/status. However, the components social activity \((F(1,382) = 15.12, p < 0.001)\) and economic
security \((F(1,382) = 18.26, p < 0.001)\) were also found to be significant predictors of fashion/status with an \(R^2\) of 0.04 and 0.05.

Factor 6 (habitual) was positively influenced by contextual age sum \((F(1,382) = 33.30, p < 0.001)\) with an \(R^2\) of 0.08. The habitual gratification was equal to 3.53 + 0.02(contextual age sum). This means that for every individual who was one unit greater in contextual age sum, they used their wearable device 0.02 times greater for habitual reasons than someone who scored one unit less on the contextual age sum. Individual components of contextual age such as mobility \((F(1,382) = 33.27, p < 0.001)\), life satisfaction \((F(1,382) = 41.04, p < 0.001)\), social activity \((F(1,382) = 15.96, p < 0.001)\) with an \(R^2\) of 0.08, 0.10, and 0.04 all independently affected the habitual gratification. All of these correlations are positive, meaning that as each of these components increased, the habitual gratification also increased.

Similar patterns were found for Factor 7 (feelings of accomplishment) \((F(1,382) = 4.29, p < 0.05)\) with an \(R^2\) of 0.01. The feelings of accomplishment gratification was equal to 2.59 + 0.02(contextual age sum). Life satisfaction \((F(1,382) = 11.50, p = 0.001)\) and social activity \((F(1,382) = 11.22, p = 0.001)\) both with an \(R^2\) of 0.03 significantly predicted feelings of accomplishment.

Factor 9 (employee benefits) was significantly predicted by contextual age sum \((F(1,382) = 11.98, p < 0.001)\) with an \(R^2\) of 0.03. Employee benefit was equal to 0.93 + 0.02(contextual age sum). Likewise, with every one-unit increase in contextual age sum, individuals were more likely to use wearable technology for employee benefits by 0.02. Mobility \((F(1,382) = 4.99, p < 0.05)\) negatively predicted employee benefits with an \(R^2\) of 0.01; however, life satisfaction \((F(1,382) = 5.76, p < 0.05)\), social activity \((F(1,382) = \)
23.05, \( p < 0.001 \), and economic security (\( F(1,382) = 16.84, p < 0.001 \)) were all positive predictors of the employee benefits gratification with an \( R^2 \) of 0.02, 0.06, and 0.04.

**H3.** Based on Livaditi et al. (2003) and Rubin’s (1984) distinction between ritualized and instrumental gratifications, the following gratifications were averaged together to create the instrumental gratification variable: mobility/connectivity, health improvement, sleep tracking, and employee benefits. Then, a simple linear regression was computed to determine if there was a positive correlation found between those seeking instrumental gratifications and perceptions of usefulness. The regression indicated that a positive correlation was present (\( F(1,384) = 9.19, p < 0.01 \)), with an \( R^2 \) of 0.02. Perceived usefulness was equal to 15.16 + 0.52(instrumental). For those seeking instrumental gratifications, perceived usefulness increased by 0.52. This also means that those seeking instrumental gratifications perceived wearable technology as useful, thus, supporting Hypothesis 3.

**H4.** The same procedure (above) was conducted to create the ritualized gratification variable, consisting of the factors; community, enjoyment, fashion/status, habitual, and feelings of accomplishment. A simple linear regression was also conducted to determine if there was a positive correlation found between those seeking ritualized gratifications and perceptions of ease of use (\( F(1,384) = 4.54, p < 0.05 \)), with an \( R^2 \) of 0.01. Perceived ease of use was equal to 15.77 + 0.46(ritualized gratifications). Results revealed that those seeking ritualized gratifications had positive perceptions of usefulness. Thus, Hypothesis 4 was also supported.

**H5.** To determine if perceived ease of use had a direct, positive influence on perceived usefulness, a simple linear regression was performed. Results showed that
perceived ease of use was a significant predictor of perceived usefulness \( (F(1,384) = 127.98, p < 0.001) \), with an \( R^2 \) of 0.25. The prediction of perceived usefulness was equal to \( 9.19 + 0.43(\text{PEOU}) \). Specifically, as one’s perception of ease of use increased by one unit, perceptions of usefulness also increased by 0.43, thus supporting Hypothesis 5.

**H6 and H7.** Two separate simple linear regressions were conducted to determine if positive correlations were present regarding individuals seeking instrumental gratifications and components of TAM. The first regression examined if there was a correlation between those seeking instrumental gratifications and attitudes towards use. The second regression determined if there was a correlation between those seeking instrumental gratifications and actual usage. The results were insignificant, which indicated that there was not a positive, strong correlation between those seeking instrumental gratifications of wearable technology with either attitudes towards use or actual usage. However, a significant positive correlation was found between those seeking ritualized gratifications of wearable technology and attitudes towards use \( (F(1,384) = 26.88, p < 0.001) \), with an \( R^2 \) of 0.07. Attitudes towards use was equal to \( 18.39 + 1.21(\text{ritualized gratifications}) \). As an individual’s use of wearable technology for ritualized gratifications increased, so did their attitudes towards use. Because of the previous correlation, a second linear regression was conducted to determine if there would also be a positive correlation between those seeking ritualized gratifications and actual usage. A significant, positive correlation was also found \( (F(1,384) = 5.43, p < 0.05) \), with an \( R^2 \) of 0.01. Actual usage was equal to \( 9.70 + 0.25(\text{ritualized gratifications}) \).

**H8.** One final simple linear regression was conducted to determine the degree of influence perceived ease of use has on attitudes towards use. Results reveal that perceived
ease of use significantly influenced attitudes towards use \((F(1,384) = 83.55, p < 0.001)\), with \(R^2\) of 0.18. Attitudes towards use was equal to \(14.24 + 0.47(PEOU)\). For example, as an individual’s perceptions of ease of use increased by one unit, their attitudes towards using wearable technology increased by 0.47. Hypothesis 8 was supported.
Chapter 5: Discussion

Theoretical Implications

This study used both in-depth interviews and an online survey with wearable technology users aged 18-34 in the United States (N=384) to examine the uses and gratification (U&G) of those who use wearable technology. Through the elaborate design of the study, nine primary gratifications of wearable technology use were identified and examined. The Technology Acceptance Model (TAM) served as the theoretical guide for the hypotheses. Contextual age and gender were significant influencers on the gratifications fulfilled.

Having examined the uses and gratifications among wearable technology users, the gratifications obtained for wearable technology usage were identified. Gender and contextual age show to be consistent factors in influencing the gratifications obtained. For example, females used wearable technology more often for feelings of accomplishment and health improvement compared to males. Males used wearable technology more often for connectivity and mobility. In regard to wearable technology use, the higher an individual scored on the contextual age scale, meaning the “younger” the individual was environmentally, the more likely the individual used wearable technology for gratifications such as connectivity/mobility, health improvement, community, enjoyment, fashion/status, habitual, feelings of accomplishment, and employee benefits. The study also revealed advantages for examining the individual components of contextual age to provide a more specific depiction of how psychographic traits influence wearable usage.
Furthermore, the application of TAM in the context of a technology used for personal use deemed successful in concert with the U&G theory. An intersection between the two theories appeared to exist. The gratifications fulfilled for wearable technology affected perceptions of ease of use, usefulness, and attitudes towards use. Individuals who sought wearable technology for instrumental, action-oriented purposes, such as seeking information about their health and sleeping patterns, had greater perceptions of usefulness. Similarly, those who sought wearable technology for ritualized use perceived their devices to be easier to use. These findings are cohesive with Joo and Sang’s (2013) examination of smartphone use, indicating that this correlation is potentially universal among various technologies. Likewise, perceived ease of use was found to have a significant effect on perceived usefulness, further substantiating that wearable devices must also be perceived as easy to use.

While several past studies found instrumental gratifications to be the most prominent drivers of technology usage (Joo & Sang, 2013; Leung & Wei, 2000), these results contradict prior research. Instrumental gratifications were not significant predictors of either attitudes towards use or actual usage. In contrast, ritualized gratifications were found to be influential drivers of wearable technology usage when examined under the application of TAM. Specifically, those who used wearable technology for passive, leisurely tasks had higher positive attitudes and used wearable technology at a higher frequency. Since these patterns were insignificant when instrumental gratifications were applied as the predictor variable, it suggests that ritualized gratifications are more influential in driving wearable technology use than instrumental gratifications.
Additionally, ease of use in this instance was found to be a significant, positive predictor of one’s attitudes towards using wearable technology. Because this finding also conflicts with past studies, it suggests that perhaps the degree of influence of ease of use depends upon the context of use and functionalities of the device. This connection could have occurred for a number of reasons. The first reason could be due to the fact that the majority of participants in the study wore their device(s) seven days each week, making them heavy users of these technologies. This might indicate that the more someone uses a wearable device, the more familiar they become with navigating the device, thus increasing their perceptions of ease of use.

A second reason for this conflicting result might be due to the mental state of wearable technology users. For example, perceived ease of use was not found to be a significant, direct predictor of attitudes towards use in past studies (Davis, 1989; Wang et al., 2012). In these studies, participants were in an action-oriented state such as MBA students working to achieve academic success or information seekers in an online community. This study investigated wearable technology use in a general sense, meaning that individuals could have used the technology for either leisure or work purposes, or both. However, in order to further understand why these results contradict Davis (1989) and Wang et al. (2012), a continued investigation into the intersection between TAM and U&G deems necessary.

This research provided additional rationale for using both qualitative and quantitative methods in examining the uses and gratification of a new technology. A deeper level of insight was gained from the qualitative procedure that supplemented the quantitative findings. For example, the in-depth interviews revealed that repeating
gratifications did emerge (habitual, connectivity/mobility, community, enjoyment, and fashion/status), but the nature of these repeated gratifications were not entirely replicated from past technology studies. For example, connectivity and mobility is a gratification also found in mobile phone usage (Ishii, 2006; Leung & Wei, 2000); however, wearable technology fulfills the connectivity/mobility gratification in different ways. Wearable technology allows users to be hands-free, allowing them to have the temporal mobility to perform various activities at once. It also provides a physical mobility, which grants users the freedom to move around and stay connected to their social networks without feeling captive by a phone or computer. Individuals can leave their technology without having the “separation anxiety” commonly found amongst connected individuals today. This indicates that wearable technology fulfills the connectivity and mobility gratification in a much more advanced manner than smartphones. This posits the importance of examining each gratification in detail to better understand how various technologies fulfill the same gratifications in different ways. Additionally, new gratifications emerged from wearable technology use: health tracking, feelings of accomplishment, and sleep tracking. These gratifications will potentially evolve in other past and future technologies as they become more in demand by mainstream society.

**Practical Implications**

Wearable technology, if adopted into society, has the potential to drastically change the way persuasive messages are communicated to individuals. For example, programmatic, digital advertisements will become significantly more targeted to individuals based on the data collected from wearable devices. Not only will brands be able to more efficiently target consumers, the health industry will also be able to better
reach at an-risk group of people to more efficiently change unhealthy behaviors. For example, health communicators could use wearable technology to reach those with high alcohol consumption or other risky behaviors to reduce alcoholism or other health-related issues (Bernhardt, Usdan, Mays, Martin, Cremeens, & Arriola, 2009). As technology advances, it will become more crucial that new innovations remain simple to use and navigate. The application of TAM substantiated the relationship between technology adoption and perceived ease of use. Furthermore, results indicated that gender and contextual age are strong influencers on one’s motives for using wearable technology; it is, therefore, important to understand a target’s psychological needs and wants before marketing a particular device. This is important, not only because it will help secure a marketing strategy, but also because the findings suggested the impact of user motives on perceptions of usefulness and ease of use. Thus, their use of technology affects their attitudes and actual usage. Based on the results in this study, wearable technology offers additional benefits that past technologies fail to provide, such as advanced health tracking options and an increased mobility due to the hands-free functionalities of these devices. Perhaps, wearable technology manufacturers should emphasize these benefits as a competitive advantage over smartphones.

Currently, marketing efforts among wearable devices accentuate the aesthetics of the technology. Google Glass and Apple Watch campaigns emphasize the sleekness of the devices, which fits well along with their high prices. Similarly, the Samsung Galaxy Gear television campaign called “Evolution” in 2013 compared the watch to the evolution of fictional devices found in renowned futuristic television shows and movies such as The Jetsons, Knight Rider, and Back to the Future. These campaigns all market
these devices as the “long-awaited” innovations of the future, positioning them as novel status symbols. In addition to these strategies, everyday utility should also be emphasized in marketing campaigns. A recent Apple Watch campaign highlights different uses of the watch, which is a step in the right direction for encouraging adoption; however, many of these functionalities stressed in the commercials are also uses of smartphones. A more motivating campaign would stress benefits that only wearable devices could fulfill. For example, the advanced health tracking, mobility, and convenience that wearable technology provides for everyday use would perhaps be more influential.

Limitations and Directions for Future Research

While users were informed of the requirement to be between the ages of 18-34 and users of wearable technology prior to taking the survey, it is possible that participants were untruthful during the screener in order to complete the survey and receive the financial compensation. Repeating this survey using a platform that ensures only individuals who own a device and are within the millennial age group would be an easy way to replicate the survey with reduced risk. Additionally, the survey would be simple to replicate using a sample of college students. In fact, several U&G studies do in fact recruit participants in undergraduate classes (Papacharissi & Rubin, 2000).

Additionally, the online survey was limited to only those adults who have access to the Internet and own an MTurk account. Likewise, the survey recruitment on MTurk allows participants to either choose to participate or ignore the opportunity. It is possible that those who choose to participate had a certain interest in the topic, allowing for slight potential for voluntary response bias (Creswell, 2014).
Given time and resources, the in-depth interviews were collected using a convenience, snowball sample of millennials living in Missouri. With convenience samples, there is always the risk that the insights collected during these procedures are not entirely representable to the larger population. Repeating the study, but expanding the recruitment for in-depth interviews to other areas of the United States would provide additional perspective for current uses of wearable technology and reduce this risk. Furthermore, these interviews were a means to establishing relevant survey instruments for measuring the uses and gratifications of wearable technology; however, it would be interesting to conduct a similar study through a qualitative lens.

For the purpose of this study, the nine gratifications were categorized as either instrumental or ritualized based on Rubin’s (1984) definition. Due to great length of time that has passed since the creation of these two definitions and the rapid advancement of technology, perhaps uses and gratifications researchers should reevaluate the distinction between ritualized and instrumental gratifications. For example, the distinction between the two gratification categories is very subjective. For example, an argument could be found that could classify any gratification as either instrumental or ritualized, such as an individual watching a video on their smartphone. While this study would have classified this act as a ritualized gratification, it could also be classified as instrumental if the goal in mind was to gather information or be informed on a specific topic. Therefore, an examination into how ritualized and instrumental gratifications are defined with modern technology could be beneficial for future uses and gratifications studies. Likewise, it would have been interesting to determine the most prominent drivers of adoption without
grouping the gratifications into two categories to see how the results would compare to this study.

During a time when wearable technology is novel to society, it was important to first investigate the category as a whole. While there is great overlap between wearable technology functionalities, it would be interesting to examine specific wearable devices independently to compare the gratifications obtained and key drivers of each specific device.

**Conclusion**

The wearable industry will most likely experience pivotal changes within the next few years as it either expands into mainstream society or fades away like many other fads of the past. Wearable technology has been successful in attracting early adopters; however, it is still at a critical stage, as it has not yet infiltrated mainstream society. It is imperative that wearable manufacturers make the appropriate decisions about what uses of wearable technology to emphasize in marketing efforts to optimize positives perceptions. Stressing ritualized use of wearable technology will most likely increase attitudes towards use and actual usage of the technology, which can help build momentum. Furthermore, due to the significant influence of demographic and psychographic traits on the motives for wearable technology use, technology companies must carefully select a specific audience for marketing their product, rather than attempting to appeal to the masses.
References


Appendices

Appendix A

In-Depth Interview Recruitment and Consent

Hello,

My name is Jenny Travers, and I am a master’s student at the University of Missouri currently working on my thesis, which is a study investigating the motives and perceptions of wearable technology adoption. For the first portion of my research, I am looking for individuals between the ages of 18 to 34 to participate in an in-depth interview. Participants will be asked a series of questions about their perceptions of wearable technology. The information gathered from these interviews will help provide additional insight for my research and help me refine my online survey.

The interview will last about one hour. Your responses would remain entirely confidential and personal information would be de-identified. If you have any questions or are interested in participating, please feel free to send me an email at jatvd6@mail.missouri.edu.

If you have any questions regarding your rights as a participant in this research and/or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the University of Missouri Campus Institutional Review Board (which is a group of people who review the research studies to protect participants’ rights) at (573) 882-9585 or umcrearchcirb@missouri.edu.

The title of my research is: Uses and Gratifications of Wearable Technology Adoption. The IRB Number associated with my project is 2002368 C.

Thank you,

Jennifer Travers
Appendix B

In-Depth Interview Questionnaire

Do you own (or have owned) any form of wearable technology?

If so, what wearable device(s) do you own (did you own)?

What made you decide to purchase the device(s)?

How do (did) you use the device? Can you give me an example?

For what tasks did you use the device? Can you tell me more about that?

How useful was (is) this device for achieving that (those) tasks? Can you tell me the reasons you feel that way?

About how long did it take to learn how to achieve the task(s) described earlier?

What steps did you take to understand how to navigate your device?

How often do (did) you use it?

Are there any tasks that wearable technology assists with that other technologies do not?

Can you tell me more about that?

(If they do not own a wearable device) Can you think of any reasons for buying a wearable device? What are some examples that come to mind?

If you do not own wearable technology, how do you think these devices can be used?

(If they do not own a wearable device) How useful do you think these devices would be to use for the tasks that just came to mind?

(If they do not own a wearable device) How easy (or difficult) do you think it would be to use these devices?

What feelings come to mind when you think about wearable technology?
If you had to describe wearable technology in only three words, how would you describe it? Can you tell me more about the reasons you chose those words?

Is there anything else you would like to add?
Appendix C

MTurk Recruitment Ad

This study seeks to measure the motives and perceptions of wearable technology usage. For this study, wearable technology is limited to devices that are worn on the body with some form of data collecting or motion sensing capabilities. Examples of these wearable devices include fitness bands (Fitbit, Jawbone, Vivofit, etc.), people-tracking devices, smart glasses (Google Glass), smart clothing, and smart watches (Apple Watch, Samsung Watch, Microsoft Band, etc.).

This survey is for those who currently own or have used wearable technology (described above) and are between the ages of 18-34. It should take approximately 20 minutes to complete. All of your information and answers will remain anonymous. At the end of the survey, you will receive a code to paste into the box below to receive $2 for submitting our survey.

If you have any questions about this study, please contact Jennifer Travers (jatvd6@mail.missouri.edu), the Primary Investigator for this project.

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the code into the box.
Appendix D

Survey Consent Form

My name is Jenny Travers, and I am a master’s student at the University of Missouri currently working on my thesis, which is a study investigating the motives and perceptions of wearable technology adoption. You must be in the age range of 18 to 34 and reside in the United States to participate.

For the purpose of this study, wearable technology is limited to devices that are worn on the body with some form of data collecting or motion sensing capabilities. Examples of these wearable devices include fitness bands, people-tracking devices, smart glasses, smart clothing, and smart watches.

Participation is completely voluntary. You may decline to answer any question, or you may withdraw your participation at any time by ceasing to respond to questions or closing your browser window. If you choose to participate and you complete the survey, you will receive a code to receive $2.00 through your MTurk account at the end of the survey.

The survey will take 20 minutes or less and will be used for academic research. Participants and responses will remain anonymous. The risks in participating in this study are no greater than what would be expected in a daily conversation about similar topics and there should be no potential risk in participating.

If you have any questions about this study, please contact Jennifer Travers (jatvd6@mail.missouri.edu), the Primary Investigator for this project.

If you have any questions regarding your rights as a participant in this research and/or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the University of Missouri Campus Institutional Review Board (which is a group of people who review the research studies to protect participants’ rights) at (573) 882-9585 or umcrearchcirb@missouri.edu.

The title of my research is: Uses and Gratifications of Wearable Technology Adoption. The IRB Number associated with my project is 2002368 C.

I have read and understand this form, and consent to the research it describes to me. If you consent to participate, please click “continue” below.
Appendix E

Final Survey Questionnaire

Screener

How old did you turn on your last birthday?
1) 18-24
2) 25-34
3) 35-50
4) 51+

For the purpose of this study, wearable technology is limited to devices that are worn on the body with some form of data collecting or motion sensing capabilities. Examples of these wearable devices include fitness bands (Fitbit, Jawbone, Vivofit, etc.), people-tracking devices, smart glasses (Google Glass), smart clothing, and smart watches (Apple Watch, Samsung Watch, Microsoft Band, etc).

Do you currently own or have you ever used wearable technology?
1) Yes
2) No

Section 1
Please read each statement carefully and answer the following statements based on the extent to which you strongly disagree/strongly agree.

1. I use my wearable device…
   to keep track of what my friends are up to.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
   as a conversation starter.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
   to feel more accomplished.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
   to measure my step count.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
   to receive a rebate back from my employer.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

2. I use my wearable device…
   because it is fun to use.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to stay up-to-date with new technology.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to make phone calls, send emails, or send text messages.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to measure my calorie intake.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to avoid having to carry things around.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

3. I use my wearable device…
to increase accessibility.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to feel proud of myself.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to monitor my daily fitness.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to live more efficiently.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to have it as a status symbol.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

4. I use my wearable device…
to track my quality of sleep.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to challenge my friends.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to move around more in a day.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

to better multi-task.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

because I like how it looks.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

5. I use my wearable device…
to monitor my health.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to look stylish.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to stay accessible to anyone no matter where I was.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to make life easier.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to belong to a community.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
6. I use my wearable device…
to enhance my workouts.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
as a way to motivate myself to reach my goals.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to feel more connected to people.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to input my exercises.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
for enjoyment purposes.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
7. I use my wearable device…
to enhance what I already wear.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to hold my friends and I accountable to our goals.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
because it’s a much simpler way to measure my fitness.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to stay up-to-date on topics important to me (i.e. sports stats, current events, pop culture, etc.).
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to simplify my life.
8. I use my wearable device...
   to keep myself connected while doing other activities.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to compare my step-count with friends.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to gain more detailed statistics about my health and fitness.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   because I like to use it
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to remain hands-free.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

9. I use my wearable device...
   to increase the quality of my sleep.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to make better use of what I’m already wearing.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to monitor loved ones’ daily activities.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to perform several activities at once.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

   to beat my friends.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

10. I use my wearable device...
    to improve my health.
    (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

    to show encouragement to others.
    (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

    because it keeps me informed on things that happen in everyday life.
    (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
to decrease the amount of work I have to put forth in a day.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to have more freedom to move around.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

11. I use my wearable device…
to get in touch with friends and family.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to update my wardrobe.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to increase my fitness level.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

because it is enjoyable to use.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

with the idea that I am keeping health-related costs at a minimum.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to feel part of a special group of people.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

12. I use my wearable device…
because it was part of a wellness perk for my company/organization.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to take control of my life.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to reduce the amount of times that I look at my phone.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to provide immediate access to others anywhere anytime.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

to avoid taking my phone out of my pocket or purse.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

13. I (would) use my wearable device on the go.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree
14. Wearable Technology can (would) help me become the person that I want to be.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

15. I (would) use my wearable device as part of a daily routine.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

16. Wearable technology fits within my lifestyle.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Section 2 (TAM Measures)

Instructions: The next section is to collect your current perceptions about wearable technology. Again, please read each statement carefully and answer the questions based on the extent to which you strongly disagree/strongly agree.

17. Learning to operate my wearable device is easy for me.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
I find it easy to get wearable technology to do what I want it to do.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
It is easy for me to become skillful at using wearable technology.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
I do not find wearable technology easy to use.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

18. Wearable technology helps me improve my lifestyle.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
Wearable technology helps me achieve my personal goals.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
I do not find wearable technology useful.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree
Wearable technology increases my productivity throughout the day.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

19. All things considered, using wearable technology is…
   Good: __:__:__:__:__: Bad
   UnFavorable: __:__:__:__:__: Favorable
   Wise: __:__:__:__:__: Foolish
   Beneficial: __:__:__:__:__: Harmful
   Negative: __:__:__:__:__: Positive
20. Which wearable device do you own? (Open-ended)

21. In the past three months, how often have you worn your wearable device?
   Frequently : __ : __ : __ : __ : Infrequently
   Sporadically : __ : __ : __ : __ : Consistently

22. On average, how many days do you wear your wearable device each week?
   1) I do not own a wearable device
   2) I wear my wearable device less than one day each week
   3) I wear my wearable device 1 to 3 days each week
   4) I wear my wearable device 4 to 6 days each week
   5) I wear my wearable device 7 days each week

Section 3

Instructions: You are almost done! To complete the survey, please answer a few more questions about yourself.

23. I find a great deal of happiness in my life.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

24. I've been very successful in achieving my aims or goals in life.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

25. I am very content and satisfied with my life.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

26. I usually drive my own car or use the city bus to get around.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

27. I have to rely on other people to take me places.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

28. I usually don't travel more than a few blocks from my house each day.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

29. I often travel, vacation or take trips with others.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

30. I often visit with friends, relatives or neighbors in their homes.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

31. I often participate in games, sports or activities with others.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

32. I have no major financial worries.
   (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree
I have enough money to buy things I want, even if I do not really need them.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree
I live quite comfortably now and have enough money to buy what I need or want.
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree  (5) Strongly Agree

27. What is your gender?
   1) Female
   2) Male
   3) Prefer not to respond

End of Survey Messages

Option 1 (for those screened out):

Thank you for partaking in my survey. You were unable to complete the survey because you did not meet the criteria mentioned in the MTurk recruitment ad and consent letter. This is due to one of the following reasons:
   • You did not fit the age profile required for the study
   • You do not own or have not used wearable technology (as described in my study)

If you are taking this survey through Amazon Mechanical Turk (MTurk), you know there are certain requirements that must be met in order to participate and receive compensation. MTurk also has a policy, which states that: “A requester may reject your work if the HIT was not completed correctly or the instructions were not followed.”

You may close this window or use your explorer bar to navigate back to the Amazon Mechanical Turk site, but you will not receive a confirmation code.

Option 2 (for those who completed the entire survey):

Thank you for completing the survey! Your survey has been successfully submitted. Below is your MTurk confirmation code.

$\{e://Field/confirmation\_code\}$
Table 1

Index and Factor Loadings: Gratifications of Wearable Technology Adoption

<p>| &quot;I use my wearable device...&quot; | α | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-----------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Connectivity/Mobility       | 0.98 |     |     |     |     |     |     |     |     |     |     |     |
| to keep track of what my friends are up to | 0.53 | -0.11 | 0.48 | 0.09 | 0.09 | -0.09 | -0.08 | -0.04 | 0.12 | 0.14 |     |
| to stay up-to-date with new technology | 0.57 | -0.07 | 0.10 | 0.35 | 0.21 | 0.12 | 0.09 | 0.01 | 0.02 | 0.25 |     |
| to make phone calls, send emails, or send text messages. | 0.77 | -0.25 | 0.04 | 0.07 | 0.14 | 0.00 | -0.23 | 0.05 | -0.02 | 0.14 |     |
| to avoid having to carry things around. | 0.61 | 0.03 | 0.13 | 0.04 | -0.02 | -0.13 | 0.16 | 0.09 | 0.26 | -0.27 |     |
| to increase accessibility | 0.73 | -0.02 | 0.06 | 0.09 | 0.03 | 0.03 | 0.16 | 0.02 | -0.12 | -0.08 |     |
| to better multitask | 0.82 | 0.00 | 0.03 | 0.08 | 0.07 | 0.05 | 0.11 | 0.02 | -0.01 | -0.07 |     |
| because I like how it looks | 0.55 | -0.05 | 0.08 | 0.41 | 0.44 | -0.04 | 0.01 | -0.07 | 0.03 | -0.08 |     |
| to stay accessible to anyone no matter where I am | 0.77 | -0.18 | 0.16 | 0.09 | 0.25 | 0.05 | -0.01 | 0.02 | 0.07 | 0.16 |     |
| to make life easier | 0.68 | 0.04 | -0.16 | 0.18 | -0.04 | 0.07 | 0.36 | 0.09 | 0.12 | 0.03 |     |
| to feel more connected to people | 0.67 | -0.04 | 0.40 | 0.12 | 0.20 | 0.02 | 0.06 | -0.03 | 0.02 | 0.27 |     |
| to enhance what I already wear | 0.62 | -0.14 | 0.26 | 0.12 | 0.50 | 0.01 | 0.02 | 0.08 | 0.11 | -0.04 |     |
| to remain hands-free | 0.70 | 0.05 | -0.02 | 0.31 | -0.10 | 0.02 | 0.11 | 0.01 | 0.03 | -0.16 |     |
| to make better use of what I'm already wearing | 0.69 | 0.00 | 0.18 | 0.04 | 0.34 | 0.04 | 0.01 | 0.21 | 0.13 | -0.09 |     |
| to perform several activities at once | 0.85 | 0.01 | 0.10 | 0.04 | 0.08 | 0.05 | 0.11 | -0.02 | -0.02 | -0.02 |     |
| because it keeps me informed on things that happen in everyday life | 0.71 | 0.00 | 0.08 | 0.10 | 0.17 | 0.10 | 0.00 | -0.04 | -0.02 | 0.17 |     |
| to decrease the amount of work I have to put forth in a day | 0.71 | -0.03 | 0.19 | -0.06 | 0.11 | 0.03 | -0.02 | -0.01 | 0.16 | -0.16 |     |
| to have more freedom to move around | 0.81 | 0.01 | 0.08 | 0.08 | -0.01 | 0.07 | 0.10 | -0.05 | 0.03 | -0.21 |     |
| to get in touch with friends and family | 0.77 | -0.19 | 0.29 | 0.09 | 0.15 | 0.00 | -0.08 | 0.01 | 0.06 | 0.20 |     |
| to reduce the amount of time that I have to look at my phone | 0.80 | -0.16 | 0.13 | 0.04 | -0.04 | 0.05 | -0.08 | 0.05 | 0.06 | -0.03 |     |
| to provide immediate access to others anywhere anytime | 0.79 | -0.22 | 0.21 | 0.12 | 0.13 | 0.03 | -0.08 | 0.01 | 0.08 | 0.20 |     |
| to avoid having to take my phone out of my purse or pocket | 0.80 | -0.24 | 0.15 | 0.06 | -0.04 | 0.08 | -0.08 | 0.03 | 0.06 | 0.04 |     |
| Health Improvement | 0.94 |     |     |     |     |     |     |     |     |     |     |     |
| to gain more detailed statistics about my health and fitness | -0.15 | 0.88 | 0.01 | 0.07 | -0.04 | 0.03 | 0.04 | 0.05 | 0.01 | 0.04 |     |
| to improve my health | -0.14 | 0.90 | 0.08 | -0.01 | -0.06 | 0.08 | 0.02 | 0.06 | 0.03 | -0.08 |     |
| to increase my fitness level | -0.15 | 0.87 | 0.07 | 0.00 | -0.06 | 0.12 | 0.07 | -0.02 | -0.05 |     |
| to monitor my health | -0.08 | 0.85 | 0.02 | 0.08 | 0.03 | -0.02 | 0.07 | 0.14 | 0.06 | 0.00 |     |
| to enhance my workouts | -0.06 | 0.86 | 0.12 | 0.01 | 0.02 | -0.01 | 0.04 | 0.04 | 0.01 | 0.02 |     |
| as a way to motivate myself to reach my goals | -0.11 | 0.78 | 0.11 | 0.12 | -0.04 | 0.20 | 0.09 | -0.01 | -0.02 | -0.05 |     |
| to input my exercises | -0.01 | 0.80 | 0.07 | -0.03 | -0.04 | 0.02 | 0.07 | 0.04 | 0.09 | 0.06 |     |
| because its a simpler way to measure my fitness | -0.14 | 0.84 | -0.03 | 0.02 | -0.05 | 0.04 | 0.00 | 0.08 | 0.01 | -0.07 |     |
| to monitor my daily fitness | -0.22 | 0.86 | 0.05 | -0.02 | -0.02 | 0.05 | 0.01 | 0.05 | -0.03 | 0.01 |     |
| to measure my calories intake | 0.18 | 0.53 | 0.11 | -0.21 | -0.03 | -0.07 | 0.15 | 0.20 | -0.08 | 0.37 |     |
| to measure my step count | -0.18 | 0.73 | 0.08 | -0.07 | 0.07 | 0.12 | -0.02 | -0.03 | -0.07 | -0.13 |     |
| with the idea that I am keeping health-related costs at a minimum | 0.20 | 0.54 | 0.24 | 0.08 | -0.02 | 0.00 | 0.04 | 0.14 | 0.50 | 0.14 |     |
| to take control of my life | 0.30 | 0.50 | 0.21 | -0.03 | -0.08 | 0.15 | 0.34 | 0.06 | 0.05 | -0.03 |     |
| Community | 0.90 |     |     |     |     |     |     |     |     |     |     |     |
| to feel part of a special group of people | 0.40 | 0.04 | 0.61 | 0.04 | 0.29 | -0.07 | 0.18 | -0.04 | 0.16 | 0.08 |     |</p>
<table>
<thead>
<tr>
<th>Motivation</th>
<th>Score</th>
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<td>to challenge my friends</td>
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<td>to hold my friends and I accountable to our goals</td>
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<td>to belong to a community</td>
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<td>to compare my step count with friends</td>
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<td>to monitor loved ones daily activities</td>
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<td>to beat my friends</td>
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<td>to show encouragement to others</td>
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<td>because it is fun to use</td>
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<td>because it is enjoyable to use</td>
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<td>to have it as a status symbol</td>
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<td>as part of my daily routine</td>
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<td>fits within my lifestyle</td>
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<tr>
<td>Feelings of Accomplishment</td>
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<td>to feel proud of myself</td>
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<td>to feel more accomplished</td>
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<td>to receive a rebate back from my employer</td>
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<td>because it was part of a wellness perk for my company/organization</td>
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Table 2

*Distributional Analysis of the Gratifications of Wearable Technology*

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<th>M</th>
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<td>Employee Benefits</td>
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### Table 3

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<td>0.13*</td>
<td>0.42**</td>
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<td>0.29**</td>
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<td>0.23**</td>
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<td>0.39**</td>
<td>0.16**</td>
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<tr>
<td>3. Community</td>
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<td>0.29**</td>
<td>1.00</td>
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<td>4. Enjoyment</td>
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<td>0.27**</td>
<td>1.00</td>
<td>0.41**</td>
<td>0.42**</td>
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<td>0.01</td>
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<td>5. Fashion/Status</td>
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* p < 0.05
** p < 0.01
*** p < 0.001