

Research Article

Knowledge, Perception, Attitude, and Adoption of Consumer Wearables Among African Americans in Mississippi: A Public Health Analysis

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Abstract

African American communities in Mississippi face disproportionately high rates of chronic disease, yet the adoption of wearable health technologies, tools with the potential to improve health outcomes, remains limited. This study is the first systematic investigation of wearable devices use among African Americans in Mississippi, offering critical insights to inform public health strategies and interventions aimed at promoting health equity in minority communities. The primary objective of this study was to explore the difference/similar perceptions of African American church leaders regarding the use of wearable health devices compared to students, and to identify the cultural, economic, mistrust, cost, and technological barriers that impact adoption within their communities. A qualitative research design was used, involving 89 focus groups discussions with African American church leaders from Northern, Central, and Southern Mississippi. Sessions were conducted both in-person and virtually via Zoom. Data were analyzed using thematic analysis, guided by the Social-Ecological Model (SEM) and the Transtheoretical Model of Behavior Change (TTM), to understand individual and contextual factors influencing wearable devices adoption. Participants, primarily African American clergy and students aged 18 and older from 89 Christian denominations, expressed strong interest in wearable devices but cited several barriers to adoption. These included concerns over data privacy, cost, limited technological literacy, generational divides, and mistrust in healthcare systems. Older adults, in particular, viewed wearables as tools for younger people and lacked awareness of their health benefits. The study also found that African American clergy, as trusted community figures, who can play a pivotal role in influencing health behavior and could be instrumental in promoting wearable devices use through trust-building, education/preaching, and modeling as exemplary leaders by utilizing wearable devices. The broader dataset included 548 participants, allowing for robust demographic analysis. Results showed a health-conscious yet cautious population, highlighting the need for targeted culturally sensitive interventions. These should include educational outreach, financial assistance, and transparent communication about data use. Wearable devices have the potential to improve health outcomes and reduce disparities in underserved African American communities. To unlock this potential, public health strategies must address key barriers, particularly those related to cost, trust, technological comfort, and awareness. By engaging faith leaders and community organizations in culturally aligned efforts, wearables can become effective tools for chronic disease management and health promotion. The study proposes the "Mississippi Model of Wearable Adoption," emphasizing collaboration among clergy, policymakers, and technology providers to drive equitable adoption and foster community trust.

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Keywords

Wearables Technological Literacy, Perception and Adoption, Cost and Health Equity, Clergy and Church-Based Health Interventions, African American Communities in Mississippi, Chronic Diseases Prevention, Medical Mistrust and Trust-Building, Mississippi

1. Introduction

1.1. Background

Wearable health technologies, such as smartwatches and fitness trackers, have the potential to improve health management in African American communities but face significant adoption barriers, including systemic inequities, medical mistrust, and device inaccuracies for individuals with darker skin tones [1]. While African American students use wearables to track their health, concerns about data security, affordability, and the perception that wearables are primarily for younger, tech-savvy individuals hinder broader adoption [2]. This study examines wearable technology use among African American clergy and students at a Historically Black College in Mississippi, focusing on their awareness of health benefits and attitudes toward data sharing [1]. The COVID-19 pandemic has accelerated e-health adoption, highlighting the need for targeted interventions in underserved communities with high chronic disease rates and the importance of continued investment in public health surveillance modernization [3]. Although older clergy members show interest in wearables, privacy and cost concerns remain barriers, emphasizing the need to address these challenges to reduce health disparities, as outlined in the Healthy People 2030 initiative [4, 5].

1.2. Purpose

This study explores the barriers to adopting wearable health technologies in African American communities in Mississippi, with a focus on perceptions, trust, and attitudes toward these devices. It also examines how wearable devices can address systemic health inequities, such as racism and mistrust in healthcare. Health disparities are widespread across the U.S., with states like Massachusetts benefiting from better healthcare access, while states like Mississippi struggle with high rates of smoking, obesity, and poverty. Despite high healthcare spending, Mississippi faces rising deaths from chronic diseases like cardiovascular disease and drug overdoses, which could be mitigated by targeted public health interventions [6]. The state has some of the highest rates of chronic diseases in the nation, particularly among African Americans, who are disproportionately affected by conditions like heart disease, diabetes, cancer, and HIV [4]. Wearable technologies have the potential to address these issues, but

adoption remains low in African American communities. Barriers such as cost, medical mistrust, and negative cultural perceptions hinder adoption, compounded by social determinants like income, education, and healthcare access, which affect both the prevalence and management of chronic conditions [7, 8]. This study examines barriers to the adoption of wearable health technologies in African American communities in Mississippi, focusing on trust, perceptions, and the potential to address systemic health inequities, including racism and healthcare mistrust [6]. Despite their potential to reduce health disparities, wearable technologies face adoption challenges due to cost, mistrust, cultural perceptions, and social determinants like income, education, and healthcare access [7, 8]. The study emphasizes the role of African American clergy in overcoming mistrust and encouraging wearable use for chronic disease prevention and management, while calling for targeted public health strategies, anti-racist healthcare practices, and institutional reforms to address structural racism and improve health equity [9-12].

1.3. Barriers to Adoption and Solutions

Wearable health technologies face adoption barriers in underserved African American communities, including cost, medical mistrust, technological illiteracy, and cultural factors [13]. Financial limitations, privacy concerns, and a history of healthcare exploitation further complicate adoption [14, 15]. Older adults, while interested in wearables for chronic disease management, often lack the necessary technological skills and support [16, 17]. Solutions like subsidies, educational campaigns, and transparency about data use are essential to overcoming these barriers. Addressing broader systemic issues, such as increasing diversity in the healthcare workforce and improving cultural competence, is also critical for fostering equitable health outcomes [18]. The COVID-19 pandemic has underscored these disparities, particularly in underserved areas, emphasizing the need to address social determinants of health [19, 20]. Public health initiatives should focus on educating high-risk groups and improving access to health technologies [21]. Despite their growing popularity, wearables are still primarily used by younger, wealthier individuals, with limited evidence of their effectiveness in chronic disease management [22, 23]. To address health disparities, efforts must focus on improving accessibility, affordability,

and equity in wearable adoption [24].

1.4. Role of Clergy in Promoting Adoption

African American clergy play a crucial role in promoting the adoption of wearable health technologies within their communities by using their trusted positions to influence attitudes and behaviors. Through church events, health workshops, and outreach, clergy can encourage the use of wearable devices as tools for managing health and preventing chronic diseases, as seen in efforts to address HIV disparities in Philadelphia by integrating health topics into sermons [13]. In addition to promoting specific health behaviors, clergy can help rebuild trust in healthcare systems, which have historically underserved African Americans, by advocating for equitable access to care and fostering open discussions about health practices [13, 14]. The COVID-19 pandemic underscored the need for inclusive health technologies, and clergy can act as intermediaries, addressing concerns about wearable devices and their potential for improving health outcomes [25]. They can also educate their congregations on data privacy issues, ensuring transparency and empowering community members to make informed decisions about wearable health devices [2]. By combining spiritual guidance with health education, faith-based interventions are particularly effective in overcoming barriers to wearable adoption. As central social institutions, African American churches can leverage their influence to address health literacy gaps, promote the benefits of wearable technologies, and contribute to reducing health disparities, ultimately advancing health equity [26-28].

1.5. Significance

This study is the first to systematically explore the use of wearable health technologies among African Americans in Mississippi, focusing on addressing public health disparities. Its findings aim to inform policies and interventions that reduce health inequities and improve health outcomes, particularly for underserved, socioeconomically disadvantaged communities. The insights from this research could also serve as the foundation for the "Mississippi Model of Wearables Adoption," which, if successful, could be expanded to similar communities nationwide.

1.6. Conclusion

Wearable health technologies have the potential to significantly improve health outcomes in African American communities, especially in Mississippi, where chronic diseases are prevalent. While challenges such as cost, mistrust, and limited technological literacy hinder widespread adoption, these devices can still play a critical role in managing chronic conditions and reducing health disparities. This study emphasizes the need to address these barriers through targeted education, affordability initiatives, and greater transparency around data

privacy. The role of African American clergy, as trusted leaders in these communities, can also be instrumental in encouraging the adoption of wearables. By using their influence to build trust and raise awareness, clergy can help mitigate skepticism and promote the use of these technologies. With focused efforts to overcome adoption barriers, wearable health technologies can become essential tools for improving chronic disease management, advancing health equity, and supporting broader public health efforts, including surveillance and health promotion.

2. Literature Review

Wearable health technologies have the potential to improve health outcomes and promote health equity, but their adoption faces significant barriers, including accessibility, socioeconomic disparities, distrust in technology, mistrust in the medical system, cost, and systemic issues like racism and healthcare inequality. While these devices are effective in promoting behavior change and managing chronic diseases, their benefits are not equally experienced across all populations. To overcome these challenges, wearable technologies must be tailored to meet the needs of underserved communities, such as African Americans [1]. For example, African American students in Mississippi use wearables to monitor health metrics and raise awareness about chronic disease risks, which helps encourage proactive health management and addresses prevalent issues like cardiovascular disease [29].

Barriers such as cost, limited tech literacy, and concerns over privacy and cultural relevance hinder wearable adoption among African Americans [1]. Disparities in device ownership across ethnic groups highlight the need for trust-building efforts, with community leaders like clergy playing a key role in addressing concerns and promoting adoption [2, 26]. The COVID-19 pandemic has increased interest in wearables, especially in underserved areas, underscoring the need for affordable, durable devices and insurance coverage to overcome financial barriers [30]. While wearables can support health monitoring and behavior change, widespread adoption requires provider support, staff training, and improved device accuracy [31]. Clear communication on benefits and privacy risks is also essential to encourage self-care behaviors, particularly in high-risk groups [21].

Despite their potential, the adoption of wearable health technologies is slowed by challenges such as inadequate provider support, insufficient staff training, and concerns about device accuracy and data privacy [32]. While advances in real-time health monitoring and remote care offer promise, issues like cost, accessibility, and privacy continue to limit their widespread implementation [22, 23, 30, 31]. For instance, although smartwatches are seen as useful for detecting cardiac arrest, concerns about privacy, reliability, and accessibility must be addressed to enhance their role in emergency medical services, particularly for out-of-hospital cardiac ar-

rests, a leading cause of death in the U.S. [32].

Physical inactivity is a significant public health issue, and wearable health technologies have the potential to promote healthier behaviors, particularly by encouraging physical activity. However, adoption remains limited, especially among older adults, due to barriers such as cost, lack of information, and inadequate social support. Fitness trackers present a cost-effective solution, aligning with the World Health Organization's recommendation of 150 minutes of physical activity per week [33] and the U.S. Physical Activity Guidelines [34]. Despite their potential, challenges such as data quality, equity, and accessibility persist. Wearable solutions must be tailored to meet local needs and consider social and ethical factors [35]. While over 75% of African Americans and Hispanics own smartphones, access to wearable devices remains limited, particularly in rural areas where technology ownership is lower [36]. Current research shows wearables are mostly used by younger, wealthier individuals, leading to skewed data and excluding large segments of the population. However, studies indicate that 67% of Americans are open to using wearables for health promotion and disease prevention, provided there are economic incentives, data privacy protections, and technical support [37]. Addressing barriers such as cost, access, and education is essential to increasing wearable adoption in underserved communities and promoting health equity. Out-of-pocket costs remain a major barrier to healthcare, including wearable ownership and use, disproportionately impacting low-income and less-educated populations, ethnic minorities (African American, Hispanic, Native Americans, etc. in the US, particularly in Mississippi), migrants, refugees, women, and those with chronic conditions or disabilities [48]. Addressing inequities in societies requires universal healthcare and stronger financial protection policies for equitable healthcare reforms to lower costs and expand access and coverage [48].

Building trust is crucial for the successful adoption of wearable devices in communities with a history of discrimination, particularly in low-income and minority populations. Barriers such as poverty, limited healthcare access, and mistrust of the healthcare system hinder adoption, while socioeconomic factors like lower income and education levels further reduce wearable use, especially among older adults [38]. Health informatics interventions aimed at disease management may unintentionally deepen inequalities by benefiting more advantaged groups [39]. To reduce these disparities, it is vital to focus on improving accessibility, adoption, and adherence to wearable technology.

Addressing privacy concerns and clearly communicating the health benefits of wearable devices are key to overcoming skepticism and broadening their use [32]. Integrating social determinants of health into electronic health records (EHRs) and ensuring diverse representation in health research are important steps in addressing inequities [33, 34]. Digital health technologies, such as wearables, can improve

engagement, promote behavior change, and help manage conditions like diabetes, offering cost savings in value-based care [40]. By incorporating wearable data into EHRs, healthcare providers can better address health disparities and improve coordination with community resources [35]. However, privacy risks, including data breaches and discrimination, emphasize the need for strong consumer protection [41].

Mobile health applications, especially those targeting chronic conditions like type 2 diabetes, have shown promise in improving health outcomes through remote monitoring [42]. However, adoption remains limited, particularly among older adults [43]. Studies suggest that higher education, income, and self-rated health increase the likelihood of adoption, but adoption rates remain low, with only 9% of older adults using wearables [43]. Further research is needed to understand the barriers to adoption in this demographic. Additionally, diabetes-focused mobile apps have demonstrated effectiveness in improving self-management, lifestyle changes, and medication adherence [44].

In conclusion, while wearable technologies have the potential to improve health outcomes, their widespread adoption depends on overcoming barriers related to cost, trust, privacy, and systemic inequities. Tailored strategies that address the needs of underserved populations are essential to reducing health disparities and promoting health equity. By focusing on education, financial support, and transparency around data usage, wearable technologies can play a transformative role in chronic disease management and health promotion.

3. Methods

3.1. Target Population

The study targeted African American 89 church leaders [1] from Northern, Central, and Southern districts in Mississippi, aged 18 and above, with diverse socioeconomic backgrounds. This dataset contains 548 entries and 12 attributes, indicating a small to moderate-sized dataset. Most participants are affiliated with "Church" (50.36%) and "Student" (43.43%) groups, while the "Blank Group" category represents a small fraction (6.20%) (Table 2). The age distribution shows that the largest group of participants is aged 18-24 (25.91%), followed by those aged 45-54 (17.52%). Older adults (65+) form the smallest group, comprising just 2.55% of the sample (Table 2).

3.2. Sampling Instrument

A structured survey was used to investigate the primary motivation for using consumer wearable devices utilizing a qualitative study design using focus groups. Data was collected from focus group discussions, conducted both in-person and virtual via ZOOM. Thematic analysis was used to identify prevailing themes from the transcribed instructions.

A total of 514, 276 clergy and 238 students, participants were selected for the study. The missing data from the two groups is 84, 28 clergy and 28 students.

3.3. Sampling Procedure

Participants were recruited from community centers, churches, and healthcare facilities using a stratified random sampling method to ensure representation across different socioeconomic strata.

3.4. Theoretical Framework

The study applied Social-Ecological Model (SEM) theoretical framework to understand personal and environmental factors affecting wearable device adoption. Transtheoretical Model of Behavior Change (TTM) was also utilized to explore the stages of change and barriers to the use of wearable devices.

Chi-squared tests were used using SAS 9.4 to assess differences by group, clergy and students, and age from 18 and older (Tables 1, 2) [49]. This study examined data from 464 African American church leaders and college students in Mississippi, aged 18 and older, representing diverse socioeconomic backgrounds across the Northern, Central, and Southern regions [1, 2]. After excluding 84 incomplete responses, the final sample included 254 church members and 210 students. The age distribution was skewed, with 25.91% of participants aged 18-24 and only 2.55% aged 65 and older [1, 2]. In this study, we utilized data that was collected through a structured survey with only 13 key questions (Table 1), among many, covering motivations, perceptions, knowledge, and use of wearable devices. The survey included multiple-choice and Likert scale items, supplemented by six focus groups (with 89 church leaders), conducted both in-person and via Zoom, to explore barriers to adoption [2, 3]. Stratified random sampling from community centers, churches, and healthcare facilities ensured diverse representation of socioeconomic backgrounds [2]. The study utilized the Social-Ecological Model (SEM) to analyze individual and environmental factors influencing adoption, and the Transtheoretical Model of Behavior Change (TTM) to assess participants' stages of behavior change and adoption barriers [2]. This study was conducted, utilizing the primary data collected in processes through surveys and town hall meetings, to gather meaningful insights into the perspectives of faith-based leaders [2], and subsequently analyzed using Chi-Square and Fisher's Exact tests, with a significance level set at $p \leq 0.05$ (Table 3). The analysis aimed to identify factors that may influence these leaders' ownership and promotion of wearable health devices. Given the widespread establishment of formal health ministries and wellness initiatives within African American churches in Mississippi, exploring leaders' attitudes toward the adoption of such technologies was both timely and appropriate.

4. Results

This study explored the perceptions of 464 African American participants (254 church members, including very few white clergy from the Catholic denomination, and 210 students) in Mississippi regarding wearable devices for health management, monitoring, and telehealth. It found significant generational differences in how wearables were used and perceived. Younger participants (ages 18-34) were more likely to use wearables for tracking health and increasing physical activity, while older adults (ages 45-64) focused more on reducing sedentary behavior [49]. Notably, younger respondents had lower confidence in understanding the health benefits of wearables devices ($p < 0.05$), highlighting a need for targeted education. Attitudes toward data sharing also varied by age, with younger participants (ages 25-44) more willing to share health data with healthcare providers, while older adults (especially those 65+) were more reluctant ($p < 0.05$). The study also revealed that trust in wearable technology varied by age group, with concerns about data security more pronounced among clergy and students in the 35-44 age range ($p < 0.05$). Middle-aged participants (25-54) expressed more optimism about wearables' potential to improve community health ($p < 0.05$), while older groups were more skeptical. These findings underscore the importance of addressing barriers such as privacy concerns, trust in data security, and technological literacy, especially for older and less educated individuals. Economic barriers, such as affordability and technological confidence, also played a significant role, particularly among those aged 35-44 [36, 37].

Cultural attitudes within African American communities further influenced wearable adoption. Some participants expressed skepticism about the relevance and effectiveness of wearables, suggesting a need for culturally tailored education and outreach strategies. Trusted community leaders, particularly clergy, could be instrumental in overcoming these challenges by advocating for the health benefits of wearables and sharing their own experiences with the technology [2]. Given the high prevalence of chronic diseases such as Type 2 diabetes and cardiovascular disease in African American communities [4, 5], wearables have the potential to address these health disparities. Public health initiatives should focus on raising awareness, addressing privacy concerns, and improving access to affordable devices. Policymakers could explore options like subsidies or insurance coverage to make wearables more accessible, while community leaders can help build trust and encourage adoption [2, 37]. Addressing barriers related to cost, technological literacy, privacy, and cultural attitudes is crucial to increasing wearable adoption in African American communities. By focusing on education, building trust, and improving access, wearable technology can play a transformative role in reducing health disparities and improving health outcomes, particularly in underserved regions like Mississippi.

5. Discussion and Recommendations

This study investigates disparities in wearable technology adoption among African American communities in Mississippi, focusing on factors such as age, education, and privacy concerns. It calls for tailored strategies to increase adoption, with younger individuals benefiting from education on health benefits and older adults (45+) needing simplified, user-friendly training. Addressing privacy and data security is crucial, particularly for middle-aged and older adults. Public health initiatives should incorporate wearables into school curricula for younger users and provide hands-on workshops for older adults to build confidence [2]. Policymakers should prioritize clear communication on data protection, explore financial incentives like subsidies or insurance coverage, and collaborate with manufacturers to use anonymized data for public health purposes.

This study has limitations, including a small sample size, gender imbalance, reliance on self-reported data, and a focus on African American clergy and students, which may affect generalizability. Research on wearable technologies for underserved populations is limited, yet investing in accessible, high-quality health solutions could greatly improve the lives of millions and enhance global health outcomes [45]. Future research should address privacy concerns and involve both patients and healthcare providers to improve the effectiveness of wearable technologies in enhancing health outcomes [20, 46]. The study also highlights key factors influencing the willingness to share wearable health data, such as physical activity, health self-efficacy, and mobile health (mHealth) use, with physical activity being the primary motivator for sharing data with both healthcare providers and family. More research is needed to explore privacy issues and the long-term impact of wearables on chronic disease management, an area where their effectiveness remains unclear despite their potential to promote physical activity [22].

The study also reveals significant sociodemographic disparities in wearable ownership, emphasizing the need for inclusive product design and more equitable access to health technologies [47]. Overcoming barriers such as age, education, privacy concerns, and cost is essential for increasing adoption in underserved communities. Public health efforts focused on education, trust-building, and affordable devices can help reduce health disparities. Further research is needed to assess the global impact of wearables, particularly in underserved areas, and to ensure high-quality health solutions are accessible to all individuals.

6. Conclusion

Wearable health technologies offer significant potential to improve health outcomes in African American communities, particularly in Mississippi, where chronic diseases are widespread. However, adoption of these devices is hindered by challenges such as cost, mistrust, limited technological

literacy, and privacy concerns. Despite these barriers, wearables can be transformative in managing chronic conditions and reducing health disparities. This study underscores the need for targeted strategies to address these challenges, including education, affordability, and transparency around data usage.

The influence of African American clergy, as trusted leaders within their communities, can play a critical role in promoting the adoption of wearables. By leveraging their positions to build trust and raise awareness, clergy can help mitigate skepticism and encourage the use of these technologies. In addition, focused efforts are needed to address the specific needs of underserved populations, particularly African Americans. Tailored interventions should provide education on the health benefits of wearables, offer financial assistance or subsidies, and ensure that privacy concerns are clearly addressed.

Ultimately, addressing the barriers related to cost, technological literacy, privacy, and cultural attitudes is crucial for increasing the adoption of wearable health technologies in African American communities. With targeted education, financial support, and greater transparency, wearable devices have the potential to improve chronic disease management, promote health equity, and contribute to broader public health efforts, including surveillance and health promotion. By implementing these strategies and overcoming challenges, wearable devices can become indispensable tools for improving health outcomes and reducing health disparities/inequities in underserved/diverse regions like Mississippi, United States.

Abbreviations

PHIT	Public Health Informatics & Technology
JSU	Jackson State University
USA	United States of America
DCTS	Department of Clinical and Translational Sciences
SEM	Social-Ecological Model
TTM	Transtheoretical Model of Behavior Change
COVID-19	Coronavirus Disease 2019
US	United States
HIV	Human Immunodeficiency Virus
EHR	Electronic Health Records
mHealth	Mobile Health

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Author Contributions

Mihretu Ayalew: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Software, Validation, Visualization, Writing – original draft, Writing – review & editing

Girmay Berhie: Conceptualization, Data curation, Methodology, Supervision

Alfred Cecchetti: Conceptualization, Data curation, Methodology, Software, Supervision

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Appendix

Availability of Data and Materials

We sincerely thank Dr. Girmay Berhie for granting us access to his original dataset, one of the first collected on the African American population in Mississippi, including clergy and students. The dataset analyzed during this study are available from the corresponding author upon reasonable request. The supporting materials include scoping literature reviews from various sources.

IRB Approval, Ethics, and Safety

This study involved only literature review, primary data analysis, and interpretation, with no direct involvement of human participants.

Conflicts of Interest

The authors declared no potential conflicts of interest or financial disclosures to report with respect to the research, authorship and/or publication of this article.

Table 1. Selected Survey Questions and Variable Names Used in SAS 9.4.

No.	Question	Variable
1	Group	CLERGY_STUDENTS
2	Age	AGE
3	Education	EDUCATION_LEVELS
4	I am knowledgeable about the health benefits of consumer wearables.	KNOWLEDGEABLE_HEALTH_BENEFITS
5	What is your primary motivation for using a wearable device?	PRIMARY_MOTIVATION
6	Wearables provide a convenient way to monitor, store, and share health information in real-time.	CONVENIENT_WAY_MONITOR
7	The information obtained from wearables can be useful for me to make changes in my daily routine or my behavior.	CHANGES_IN_DAILY_ROUTINE_BEHAVIOR
8	Data from wearables can be provided to physicians and may be used to improve my health outcomes.	PHYSICIANS_IMPROVE_HEALTH
9	The use of wearable devices has the potential to significantly improve healthcare delivery and reduce costs.	POTENTIAL_IMPROVE_HEALTH_DELIVERY
10	The use of wearable devices has the potential to significantly reduce health care costs.	REDUCE_HEALTH_CARE_COSTS
11	If it will improve my health, I am willing to share data obtained from my wearable device with healthcare professionals (e.g. doctors, nurses, etc.).	SHARE_DATA
12	I feel I can depend on wearable health devices to provide me with reliable information.	RELIABLE_INFORMATION

No.	Question	Variable
13	If a wearable device allowed for data to be collected regarding the health status of my community, I would willingly provide this information.	STATUS_COMMUNITY

Table 2. Categories of Clergy and Students by Age Groups.

Age Range	Group/Column Labels			
Row Levels	CHURCH	STUDENT	OTHERS	Grand Total
18-24	10	132	0	142
25-34	31	46	0	77
35-44	72	12	0	84
45-54	81	15	0	96
55-64	48	3	0	51
65 and Older	12	2	0	14
None (blank)	22	28	34	84
Grand Total	276	238	34	548
Total Analyzed	254	210	0	464

Table 3. Survey Questions and Variable Names Used in the SAS 9.4 Data Analysis.

No.	Question	Variable Name	p-value
1	Group	GROUP (CLERGY AND STUDENTS)	P < 0.05
2	Age	AGE	P < 0.05
3	Education	EDUCATION_LEVELS	P < 0.05
4	I am knowledgeable about the health benefits of consumer wearables.	KNOWLEDGEABLE_HEALTH_BENEFITS	p < 0.05
5	What is your primary motivation for using a wearable device?	PRIMARY_MOTIVATION	p = 0.05
6	Wearables provide a convenient way to monitor, store, and share health information in real-time.	CONVENIENT_WAY_MONITOR	p = 0.05
7	The information obtained from wearables can be useful for me to make changes in my daily routine or my behavior.	CHANGES_IN_DAILY_ROUTINE	P < 0.05
8	Data from wearables can be provided to physicians and may be used to improve my health outcomes.	PHYSICIANS_IMPROVE_HEALTHS	P < 0.05
9	The use of wearable devices has the potential to significantly improve healthcare delivery and reduce costs.	POTENTIAL_IMPROVE_HEALTH_DELIVERY	P < 0.05
10	The use of wearable devices has the potential to significantly reduce health care costs.	REDUCE_HEALTH_CARE_COSTS	p < 0.05
11	If it will improve my health, I am willing to share data obtained from my wearable device with healthcare professionals (e.g. doctors, nurses, etc.).	SHARE_DATA	P < 0.05
12	I feel I can depend on wearable health devices to provide	RELIABLE_INFORMATION	P = 0.05

No.	Question	Variable Name	p-value
	me with reliable information.		
13	If a wearable device allowed for data to be collected regarding the health status of my community, I would willingly provide this information.	STATUS_COMMUNITY	p < 0.05

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