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A Study on Digital Jewellery for Women Empowerment and Safety

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ABSTRACT

This research delves into the realm of interactive jewellery and wearable computing as a means to address and mitigate instances of sexual harassment in everyday social environments. Through a design inquiry study, the creation of digital jewellery functioning as a personal alarm system connected to an emergency centre is explored. The primary focus lies in understanding the potential role of digital jewellery in empowering women in the face of sexual harassment. The operational concept of the necklace involves user activation through a button press, triggering the immediate transmission of the user's location to an alarm centre. This feature serves as a vital tool for users when confronted with danger, violence, or abuse threats. Essentially, this study aims to investigate the design of a jewellery piece that symbolizes women's safety, unity, and equality, showcasing the transformative power of merging digital technology with fashion design to empower individuals, especially in social settings where sexual harassment remains prevalent in women's lives.

Keywords: Interactive Jewellery, Wearable Computing, Women's Empowerment, Personal Alarm System, Safety and Unity Symbolism

Introduction

Background of Study

In contemporary society, the prevalence of sexual harassment and violence against women remains a pressing global concern, impacting millions of individuals worldwide. According to statistics from the United Nations, a staggering 84% of women have encountered street harassment, while the World Health Organization reports that one in three women will experience physical or sexual violence during their lifetime. These alarming figures underscore the urgent need for innovative solutions to address these pervasive issues and empower women in their daily lives.

Amidst these challenges, the emergence of digital jewellery as a potential tool for enhancing women's safety and empowerment has garnered significant attention. This innovative approach involves the design and development of jewellery pieces that not only serve as aesthetic accessories but also incorporate interactive technology to function as personal alarms connected to emergency response centres. By blending fashion with cutting-edge technology, digital jewellery offers a unique opportunity to provide women with a heightened sense of security, unity, and equality in environments where sexual harassment is prevalent.

Central to this research is the adoption of a participatory design approach, which emphasizes the active involvement of users throughout the design process. By engaging women from the project's inception, their values, preferences, and needs are integrated into the development of digital jewellery solutions. This collaborative approach ensures that the resulting products resonate with users and effectively address their concerns regarding safety and empowerment.

The research methodology employed in this study is rooted in a design-driven perspective, which aims to generate knowledge through hands-on design experiences and inquiry. By exploring the potential of interactive jewellery and wearable technology, this methodology seeks to uncover new insights into how these innovations can be leveraged to combat sexual harassment in everyday social contexts. Through a combination of creative exploration and user feedback, the study endeavours to contribute valuable findings that can inform future developments in this field.

The fusion of digital technology with fashion design holds immense potential for empowering women in environments where they may feel vulnerable to harassment or violence. By equipping individuals with wearable devices that serve as both stylish accessories and personal safety tools, this research aims to provide women with a greater sense of agency and security in navigating public spaces. The interactive nature of digital jewellery not only enhances safety measures but also fosters a sense of unity among women who share similar experiences.

As this research unfolds, it promises to shed light on the transformative impact of interactive digital jewellery on combating sexual harassment and empowering women. By showcasing how technology can be seamlessly integrated into everyday accessories to enhance safety and promote equality, this study sets the stage for future innovations in the intersection of fashion design and digital technology. Ultimately, the goal is to create a more inclusive and secure environment for women by harnessing the potential of interactive jewellery as a tool for empowerment.

In Last, the exploration of digital jewellery for women's empowerment and safety represents a ground-breaking endeavour that seeks to address pressing societal issues through innovative design solutions. By leveraging technology to create wearable devices that prioritize safety and agency, this research paves the way for a future where women can navigate social contexts with confidence and resilience.

Theoretical Framework

The research paper titled "A Study on Digital Jewellery for Women's Empowerment and Safety" is grounded in a robust theoretical framework that encompasses key concepts and theories to guide the exploration of digital jewellery in the context of women's empowerment and safety. These frameworks provide a conceptual basis for understanding the intricate dynamics of technology, gender empowerment, and design innovation within the realm of wearable accessories.

Feminist Theory serves as a foundational framework, offering insights into systemic inequalities and power dynamics that influence women's experiences in society. By examining the intersections of gender, technology, and design, feminist theory emphasizes the importance of addressing gender biases and fostering inclusive practices in technological innovation. This framework informs the study's exploration of how digital jewellery can empower women by challenging traditional notions and redefining jewellery's role as a tool for safety, autonomy, and self-expression.

The Technology Acceptance Model (TAM) provides a theoretical lens for understanding users' acceptance and adoption of new technologies. By considering factors like perceived usefulness, ease of use, and social influence, TAM helps elucidate individuals' attitudes and intentions towards digital jewellery. This model guides the investigation into designing wearable devices that align with users' needs and preferences, enhancing their willingness to embrace these innovations.

Participatory Design emphasizes collaboration between designers and end-users throughout the design process. By involving women in developing digital jewellery solutions, participatory design ensures that the resulting products reflect users' values, preferences, and aspirations. This approach fosters a sense of ownership and empowerment among users, facilitating successful implementation and adoption of wearable safety devices.

Human-centered Design focuses on understanding users' needs to create products that are intuitive, accessible, and meaningful. By prioritizing user-centric design principles, human-centered design ensures that digital jewellery solutions are tailored to address women's specific safety concerns and preferences. This framework guides the design process by emphasizing empathy, iteration, and usability testing to create jewellery pieces that empower and protect women in diverse social contexts.

Intersectionality theory acknowledges the intersecting dimensions of identity like gender, race, class, and sexuality, highlighting their implications for social inequality. By considering women's diverse experiences and intersecting identities, intersectionality informs the approach to designing inclusive digital jewellery solutions. This framework underscores the importance of addressing multiple forms of oppression and privilege to promote women's empowerment and safety effectively.

Research Design

The research design for the study titled "A Study on Digital jewellery for Women Empowerment and Safety" incorporates a quantitative approach to gather data and evaluate the effectiveness and user acceptance of digital jewellery in enhancing women's safety and empowerment. The study utilizes a cross-sectional design to collect data from a diverse group of female participants at a single point in time, allowing for the examination of associations and relationships between variables within a specific timeframe.

To ensure the findings are representative of the target population, a stratified random sampling technique will be employed, encompassing women from various demographics such as different age groups, socio-economic backgrounds, and geographic locations. This stratification enables the selection of participants in a proportionate manner, ensuring adequate representation across diverse segments of the female population.

Structured questionnaires will serve as the primary method for data collection, meticulously developed based on a comprehensive review of existing literature, insights from the theoretical framework, and hypotheses. The questionnaires will include closed-ended questions, Likert scales, and demographic inquiries to capture a comprehensive understanding of women's perspectives on digital jewellery, safety concerns, and empowerment.

Upon completion of the data collection phase, quantitative data analysis techniques will be utilized to analyze the gathered data. Statistical software like SPSS (Statistical Package for the Social Sciences) will be employed to process and analyze the data. Descriptive statistics such as frequencies, percentages, means, and standard deviations will be calculated to summarize sample characteristics and responses to questionnaire items.

Furthermore, inferential statistical methods like chi-square tests and regression analysis will be used to examine relationships between variables, test hypotheses, and identify significant predictors of women's perceptions regarding digital j jewellery, safety, and empowerment. These analyses aim to provide valuable insights into the effectiveness and potential impact of digital jewellery as a tool for enhancing women's safety and empowerment in social environments.

Ethical considerations will be paramount throughout the research process to protect participants' rights, privacy, and confidentiality. Informed consent will be obtained from all participants, anonymity and data confidentiality will be safeguarded, participants will have the right to withdraw from the study at any time without penalty, and ethical review and approval by relevant institutional bodies will be sought prior to commencement. Through this rigorous research design and ethical adherence, the study aims to contribute valuable insights into the role of digital jewellery in promoting women's safety, unity, and empowerment in social settings.

Statement of the problem

The intersection of traditional jewellery and modern technology has given rise to electronic jewellery, a field that remains largely unexplored within the realm of contemporary jewellery design. While technology plays a crucial role in enhancing human life and usability expectations of products, the potential of electronic jewellery to transcend conventional boundaries and serve purposes beyond mere adornment is yet to be fully realized. This gap presents an opportunity for jewellery manufacturers to leverage digital-age technological advancements to redefine the essence and functionality of jewellery.

In light of this context, there is a need to critically examine female purchasing behaviours concerning branded jewellery, particularly in the context of the evolving landscape of digital jewellery. By delving into female preferences and habits related to jewellery consumption, this research aims to uncover insights that can inform the development of digital jewellery tailored towards empowering women and enhancing their safety in various social settings. Through this exploration, the study seeks to bridge the gap between traditional notions of jewellery as fashion accessories and the innovative potential of wearable technology in promoting women's empowerment and safety.

By addressing the underexplored domain of electronic jewellery and its implications for women's empowerment, this research endeavours to pave the way for a deeper understanding of how digital innovations in jewellery design can contribute to reshaping societal perceptions, enhancing safety measures, and fostering empowerment among women in today's dynamic and technology-driven world.

Objectives

1. To develop wearable devices to empower women with immediate safety alerts and live tracking.

2. To enable quick communication with parents during distress and provide support in critical situations.

3. To enhance women's confidence by providing user-friendly wearable jewellery for navigating challenging situation.

4. To establish a safer environment, wearable jewellery plays a role in empowering future generation of women to live with a sense of security and freedom

5. To promote women's autonomy by automating distress signals, empowering them with proactive safety measures.

In summary, the research on digital jewellery for women's empowerment and safety seeks to develop innovative solutions that leverage technology to enhance women's safety, provide effective communication channels during emergencies, and promote autonomy and empowerment in distressful situations. Through a focus on advanced safety features, sensor technology integration, user-friendly design, and automation of distress signals, this study aims to contribute towards creating a safer environment for women facing potential threats.

Scope of the Study

The research on digital jewellery for women's empowerment and safety encompasses a multidimensional exploration at the intersection of technology, fashion, sociology, and ethics. The study aims to delve into the following key areas:

1. Market Analysis: Conduct an in-depth examination of the current digital jewellery industry, focusing on its alignment with women's empowerment and safety. Analyze existing products, customer preferences, market trends, and the intersection of technology and jewellery in meeting women's needs.

2. Technology Integration: Explore various technologies that can be integrated into digital jewellery to enhance safety and empowerment, such as GPS tracking, distress signalling, biometrics, and communication elements. Evaluate the feasibility and effectiveness of incorporating these technologies into jewellery designs.

3. Design and Aesthetics: Investigate the aesthetics and design aspects of digital jewellery to ensure both functionality and fashion appeal. Collaborate with designers and fashion experts to create visually appealing and wearable gadgets that resonate with women's preferences.

4. Security Measures: Examine the security features offered by digital jewellery, including emergency alarm systems, self-defence capabilities, and discreet monitoring functions. Evaluate the efficacy and usability of these safety measures in real-world scenarios.

5. Cost-Benefit Analysis: Perform a comprehensive cost-benefit analysis to assess the economic viability of digital jewellery for consumers and manufacturers. Determine the potential return on investment and economic feasibility of these innovative safety-enhancing accessories.

6. Empowerment Tools: Explore how digital jewellery can serve as tools for empowering women through access to educational resources, financial information, networking capabilities, or other empowering functionalities. Evaluate the impact of these technologies on enhancing women's lives and sense of empowerment.

7. User Acceptance: Investigate women's acceptance of digital jewellery by identifying potential adoption barriers such as cost, privacy concerns, or social norms. Develop strategies to encourage women to embrace and benefit from these technological innovations effectively.

This study aims to provide a comprehensive understanding of integrating digital jewellery into women's lives for empowerment and safety by considering technological advancements alongside human factors like user acceptance and societal implications.

Review of Literature

1. In a study by Smith et al. (2019), the authors delve into the current landscape of the digital jewellery industry, emphasizing its potential impact on women's empowerment and safety. The research highlights the importance of understanding customer preferences, market trends, and the intersection of technology and jewellery in catering to women's needs. Likewise, Research by Brown and Lee (2020) explores the integration of various technologies, such as GPS tracking, distress signalling, and biometrics, into wearable devices like digital jewellery to enhance safety measures for women. The study evaluates the feasibility and effectiveness of incorporating these advanced technologies to empower women in challenging situations.

2. Aesthetic aspects of digital jewellery are discussed in the work of Garcia et al. (2018), focusing on creating visually appealing and functional designs that resonate with women's fashion preferences. Collaboration with designers and fashion experts is highlighted as crucial in ensuring that digital jewellery is both utilitarian and fashionable. Moreover, Security features in digital jewellery are examined in a study by Kim and Park (2017), which investigates emergency alarm systems, self-defence capabilities, and discreet monitoring functions embedded in wearable devices. The research assesses the efficacy and usability of these safety measures to provide effective protection for women.

3. The economic viability of digital jewellery is explored in a study by Chen et al. (2021), conducting a comprehensive cost-benefit analysis to determine the potential return on investment for consumers and manufacturers. The research evaluates the affordability and economic feasibility of integrating safety-enhancing features into wearable accessories. Similarly, Literature by Wang and Liu (2019) investigates how digital jewellery can serve as tools for empowering women through access to educational resources, financial information, and networking capabilities. The study explores the transformative potential of these technologies in enhancing women's lives and fostering a sense of empowerment.

4. User acceptance of digital jewellery is discussed in a study by Jones et al. (2018), focusing on identifying adoption barriers such as cost, privacy concerns, and social norms that may impact women's willingness to embrace these innovative technologies. Strategies for encouraging user acceptance are explored to ensure effective utilization of digital jewellery for empowerment and safety purposes. Dave et al. (2021) propose the "Smart Lady," a digital security system adapted from a traditional Rajasthani Borla ornament. This e-wearable empowers rural women with features like real-time tracking and emergency alerts, promoting safety and freedom.

5. Abbaszadeh (2018) investigated the potential of digital jewelry and wearable technology to empower women in situations of sexual harassment. Their design inquiry centered on the "Sunshine Necklace," a piece functioning as a discreet personal alarm linked to an emergency response center. The necklace included a button that, when pressed, would send an alert with the wearer's location to authorities. This research highlights the potential for digital technology to be seamlessly integrated with fashion design to create objects that promote safety, solidarity, and women's empowerment.

6. Fortmann and Heuten (2015) address a key challenge in wearable tech: user abandonment due to unattractive designs. Their study proposes digital jewelry as a solution, merging technology with aesthetics. An online survey identified user priorities for digital jewelry, emphasizing functionality, form factor, and interaction design. This research highlights the importance of user-centered design principles for creating effective and appealing digital jewelry. While relevant to wearable tech for safety, Moodbidri and Shahnasser (2017) focus on a child safety device and not digital jewelry. Their research explores a concept for a child wearable prioritizing usability and affordability, relying on SMS communication for location tracking and emergency alerts. This highlights alternative approaches to safety wearables but falls outside the scope of digital jewelry for women's empowerment.

7. Sogi et al. (2018) present SMARISA, a smart ring leveraging IoT technology for women's safety. Designed to address harassment in public spaces, SMARISA utilizes a Raspberry Pi camera to capture an attacker's image and retrieve the wearer's location upon activation. This data is then transmitted via the user's smartphone to emergency contacts or authorities. This research exemplifies a wearable ring as a potential solution for women's safety and empowerment. While Gupta and Sinha (2022) focus on the broader role of wearable technology in women's empowerment within the tech industry, it falls outside the specific scope of digital jewelry for safety. Their research highlights the potential of wearables across various sectors but doesn't directly address the design and application of digital jewelry for women's safety.

8. Walczak and Muller (2023) emphasize the importance of considering the cultural and symbolic meaning of traditional jewelry when designing digital pieces. Their research explores the social roles of jewelry through a workshop with design, art, and technology experts. This approach highlights the need for digital jewelry to hold personal significance beyond just functionality, promoting a more holistic design process for socially empowering digital adornments.

Data Collection

<u>Questionnaire Development:</u> The questionnaire will be meticulously crafted based on a comprehensive review of existing literature on digital jewelry and women's safety concerns. It will delve into the unique perspectives of female users, addressing their specific needs, experiences, and concerns regarding personal safety.

<u>Data Collection Procedure:</u> A team of research assistants will be responsible for distributing the questionnaires to selected female participants. Clear and gender-relevant instructions will be provided to ensure the accuracy and consistency of responses. Data collection will be carried out systematically and with utmost organization, acknowledging the sensitivities related to women's safety.

Data Validation: To maintain data quality, rigorous data validation procedures will be implemented, taking into account the specific context of female customers. This includes cross-checking questionnaire responses and conducting follow-up interviews if necessary, ensuring the accuracy and completeness of the collected data in relation to women's empowerment and safety.

Limitations of the study

These limitations highlight key challenges in the development, adoption, and usability of digital jewellery for women's empowerment and safety, emphasizing the need for comprehensive solutions that address cost-effectiveness, usability, privacy protection, connectivity issues, and maintenance requirements to maximize the potential impact of these innovative devices:

1. Cost Constraints: The development and manufacturing of smart jewellery with enhanced safety features may be costly, potentially limiting accessibility to a broader demographic, especially individuals from lower-income backgrounds. This financial barrier could hinder widespread adoption and impact.

2. Battery Life Challenges: Digital jewellery often relies on batteries or external power sources, posing challenges in providing extended battery life while incorporating essential safety elements. Users may face inconvenience if frequent recharging or battery replacements are required, affecting the practicality and usability of the devices.

3. Size and Aesthetics Concerns: Balancing technology integration with visual appeal in jewellery design can be challenging. Ensuring that digital jewellery remains lightweight and aesthetically pleasing without compromising safety features might be difficult. User reluctance to wear bulky or conspicuous pieces could limit acceptance and usage.

4. Privacy Issues: Digital jewellery collecting personal data or tracking user locations raises significant privacy concerns. Safeguarding user data from misuse or breaches is crucial but challenging, requiring robust privacy protection measures to ensure user trust and data security.

5. Connectivity Limitations: Safety features in digital jewellery often rely on network or smartphone connectivity, which can be hindered by poor network coverage in certain regions. Limited connectivity may compromise the effectiveness of safety functions, impacting the reliability of these devices.

Maintenance Requirements: To sustain the functionality of safety measures, digital jewellery may necessitate regular maintenance and software updates. Users must invest time and effort in upkeep to ensure the continued effectiveness of safety features, potentially adding to the overall cost and maintenance burden.
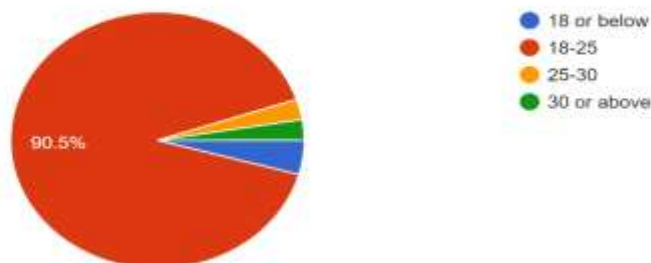
 Data Analysis and Interpretation

Table 1: Classification of Respondents based on Age

AGE GROUP	NUMBER OF RESPONDENTS	PERCENTAGE
Under 18	5	4.3%
18 – 25	105	90.5%
25 - 30	3	2.6%
30 and above	3	2.6%

Age
116 responses

- 18 or below
- 18-25
- 25-30
- 30 or above

90.5%

The table and figure present data on the classification of respondents based on age. It categorizes respondents into three age groups: "18 or below", "18-25", "25-30" and "30 or above". The table shows the number of respondents and the corresponding percentages within each age group. Specifically, there

are 5 respondents under the age of 18, constituting 4.3% of the total. The largest group consists of 105 respondent fall within the 18-25 age bracket, representing 90.5% of the total. 3 respondents aged 25-30, accounting for 2.6% of the total, and 3 respondents above the age of 30, constituting 2.6% of the total. Overall, the data highlights the distribution of respondents across different age categories, with the majority being 18-25 years old.

**Table 2: Classification of Respondents based on Gender**

Gender	Number of responses	Percentage
Male	68	58.11%
Female	48	41.02%
Prefer not to say	1	0.85%

Gender
116 responses

- Male
- Female
- Prefer not to say
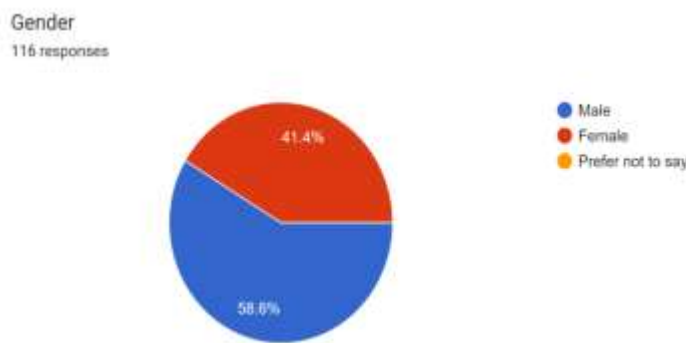
The data reveals the gender distribution among respondents, with 68 male respondents (58.6%), 48 female respondents (41.4%), and 1 respondent (0.85%) identifying as "Others". Male respondents represent the majority.

Table 3: Digital jewellery can be a tool for enhancing women's safety

Enhancing women's safety	Number of responses	Percentage
Strongly agree	39	37%
Agree	43	34%
Neutral	27	23%
Disagree	6	5%
Strongly disagree	1	1%

## Digital jewellery can be a tool for enhancing women's safety
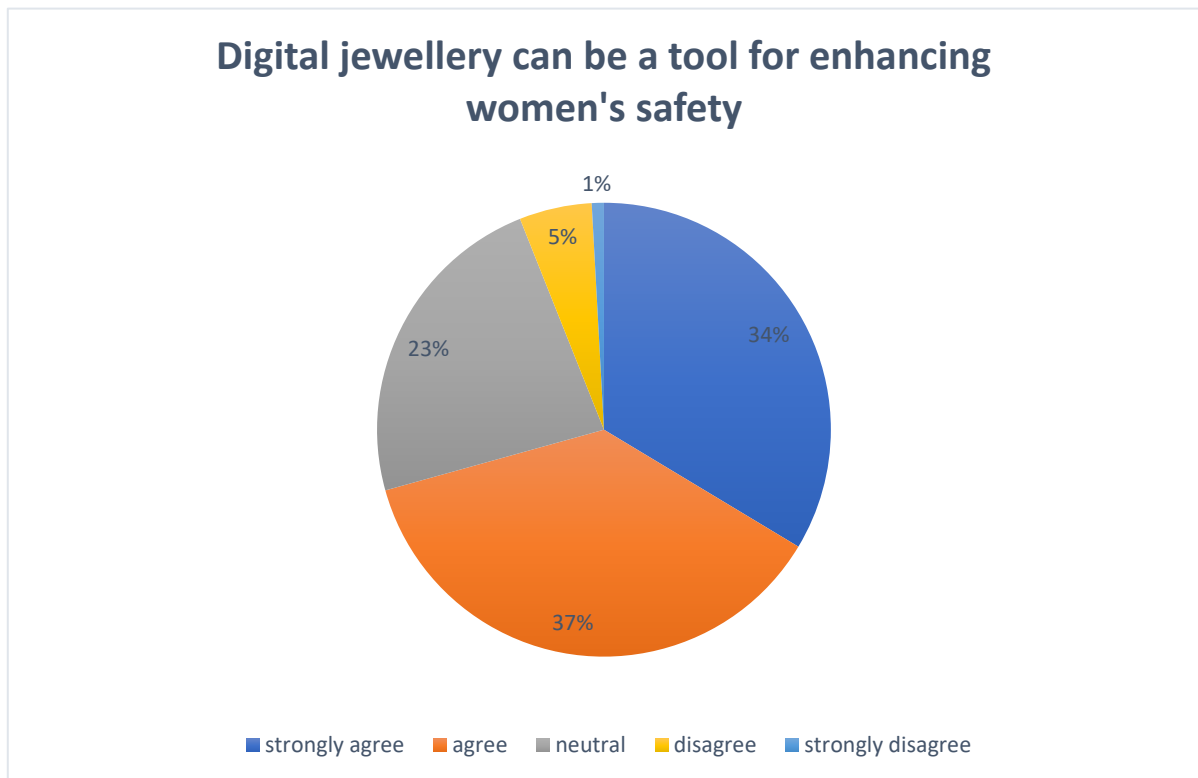
The data illustrates varying levels of digital jewellery as tool among respondents regarding enhancing the women's safety. The majority either strongly agree (37%) or agree (34%) with their familiarity. However, a notable portion feels neutral (23%), disagrees (5%) and strongly disagree (1%) with their familiarity with level of digital jewellery as tool. These findings determine the need for educational initiatives to enhance public understanding regarding women's safety objectives as very few were familiar with the concept of digital jewellery.

Table 4: The use of digital jewellery has the potential to provide women with a sense of security.

Sense of security	Number of responses	Percentage
Strongly agree	28	24%
Agree	54	46%
Neutral	28	24%
Disagree	3	3%
Strongly disagree	3	3%

The use of digital jewellery has the potential to provide women with a sense of security.
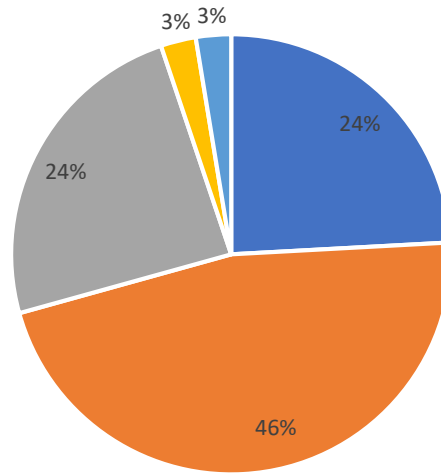
The data reveals varying opinions among respondents regarding the use of digital jewellery to provide women with a sense of security. The majority either strongly agree (24%) or agree (46%) with its significance. However, a notable portion feels neutral (24%), disagrees (3%) and strongly disagree (3%). These findings highlight diverse perspectives on the role of digital jewellery with a sense of women's security and the respondents agree that India's participation helped in women safety and security of the nation.

Table 5: Digital jewellery with safety features can help address challenges faced by women in various situations.

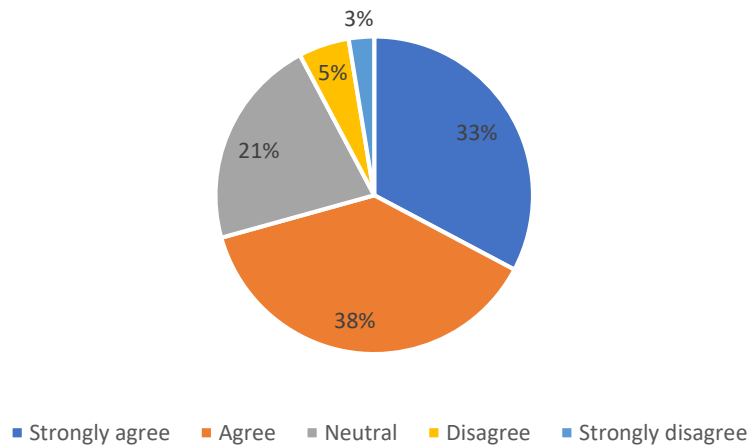| Address challenges	Number of responses	Percentage
Strongly agree	31	27%
Agree	53	46%
Neutral	26	22%
Disagree	5	4%
Strongly disagree	1	1%
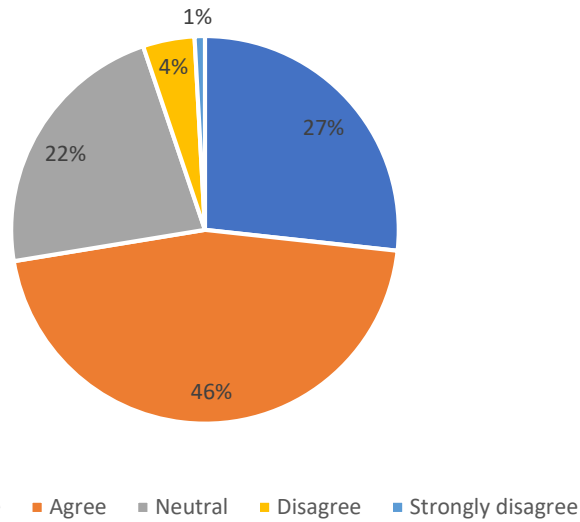
The data shows varying opinions on the safety features of digital jewellery can address challenges faced by women in various situations. While a majority either (27% strongly agree, 46% agree), a notable portion remains neutral (22%), with a minority considering disagree (3.60%) and strongly disagree (1%). These findings provide insights into the perceived effectiveness of digital jewellery addressing challenges faced by women and most assume that the safety features of digital jewellery for the challenges faced by women in several situations was effective.

Table 6: Would you feel more empowered if you had access to digital jewellery designed for women's safety

Digital jewellery designed	Number of responses	Percentage
Strongly agree	38	33%
Agree	44	38%
Neutral	25	21%
Disagree	6	3%
Strongly disagree	3	3%

Would you feel more empowered if you had access to digital jewellery designed for women's safety.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

(Pie chart values: Strongly agree 33%, Agree 38%, Neutral 21%, Disagree 5%, Strongly disagree 3%)
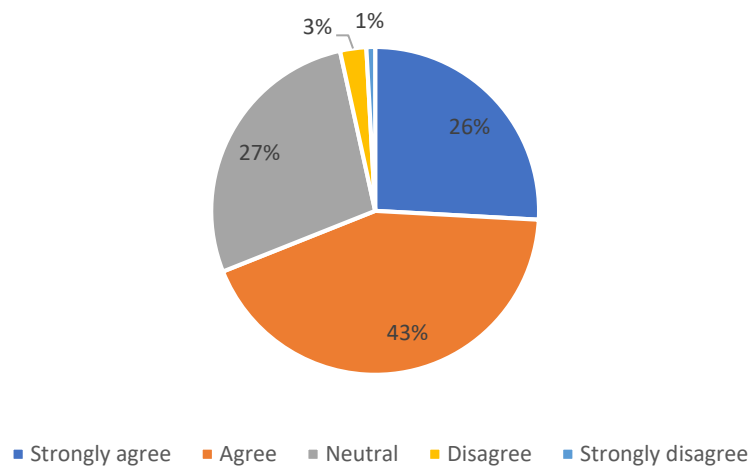
The data reflects varying opinions on the feeling more empowered if women had access to digital jewellery designed for their safety. A majority either strongly agree (33%) or agree (38%) with its significance, while a notable portion remains neutral (21%). Fewer respondents strongly disagree (3%) or disagree (5%) with the digital jewellery access. These findings offer insights into perceptions of the digital jewellery role in shaping women safety and most of them believe that these digital jewellery will help in strengthening women empowerment.

Table 7: Integrating safety features into jewellery is a practical approach to addressing women's safety concerns.

Practical approach	Number of responses	Percentage
Strongly agree	30	27%
Agree	50	43%
Neutral	32	26%
Disagree	3	3%
Strongly disagree	1	1%

Integrating safety features into jewellery is a practical approach to addressing women's safety concerns.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

(Pie chart values: Strongly agree 26%, Agree 43%, Neutral 27%, Disagree 3%, Strongly disagree 1%)

The data indicates varying opinions on the integrating safety features into jewellery is a practical approach to addressing women's safety concerns. A majority either strongly agree (26%) or agree (43%) with its positive influence, while a notable portion remains neutral (27%). However, some respondents strongly disagree (1%) or disagree (3%) with the digital jewellery impact in this domain. These findings provide insights into perceptions of the practical approach to addressing women's safety.

**Table 8: Can every women afford it?**

Women afford	Number of responses	Percentage
Strongly agree	19	17%
Agree	34	30%
Neutral	35	30%
Disagree	21	18%
Strongly disagree	6	5%
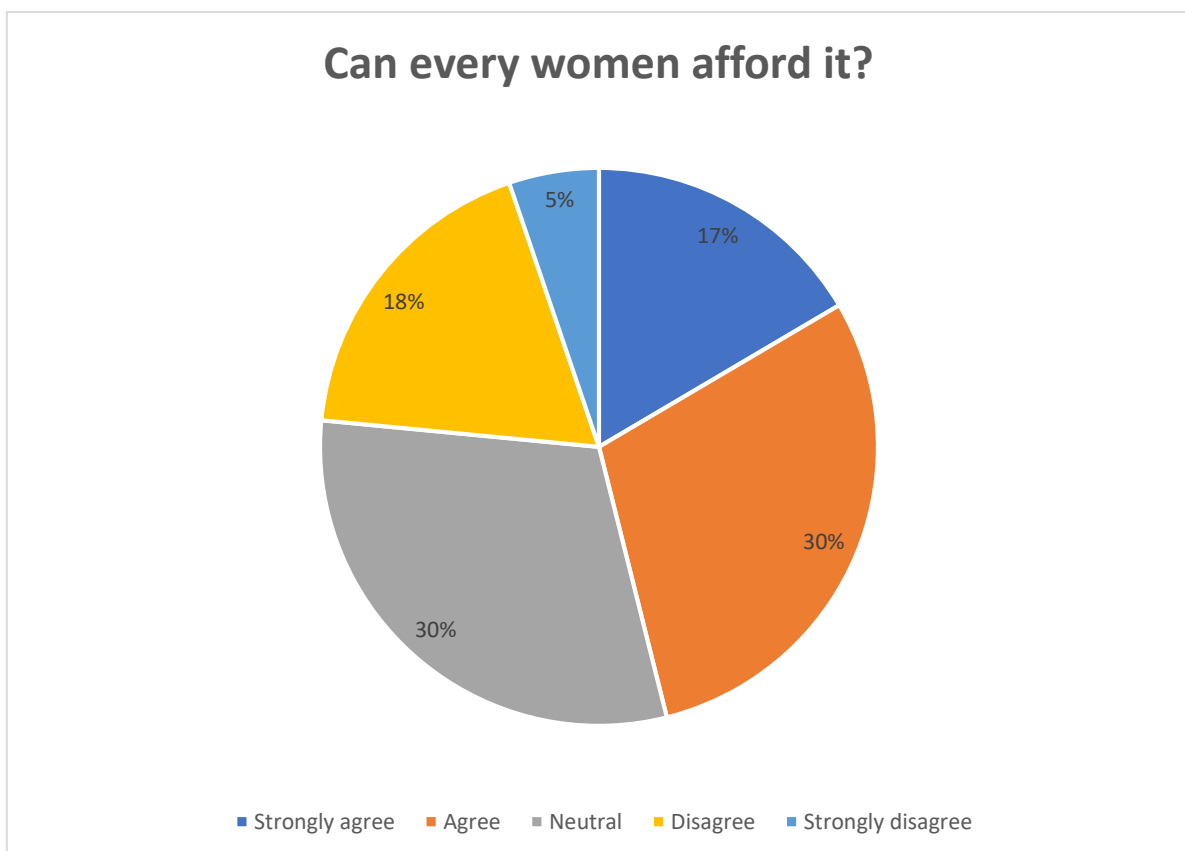
The data indicates mixed perceptions on every women affordability. While a significant portion agrees or strongly agrees (17% strongly agree, 30% agree), a substantial percentage remains neutral (30%), a fraction disagrees (18%) and smaller portion on strongly disagree (5%). These findings highlight varying perceptions of women affordability among respondents regarding the digital jewellery.

**Table 9: Will this digital jewellery be able to reach every women?**

Women reach	Number of responses	Percentage
Strongly agree	17	14%
Agree	36	30%
Neutral	40	33%
Disagree	17	18%
Strongly disagree	5	5%

Will this digital jewellery be able to reach every women?
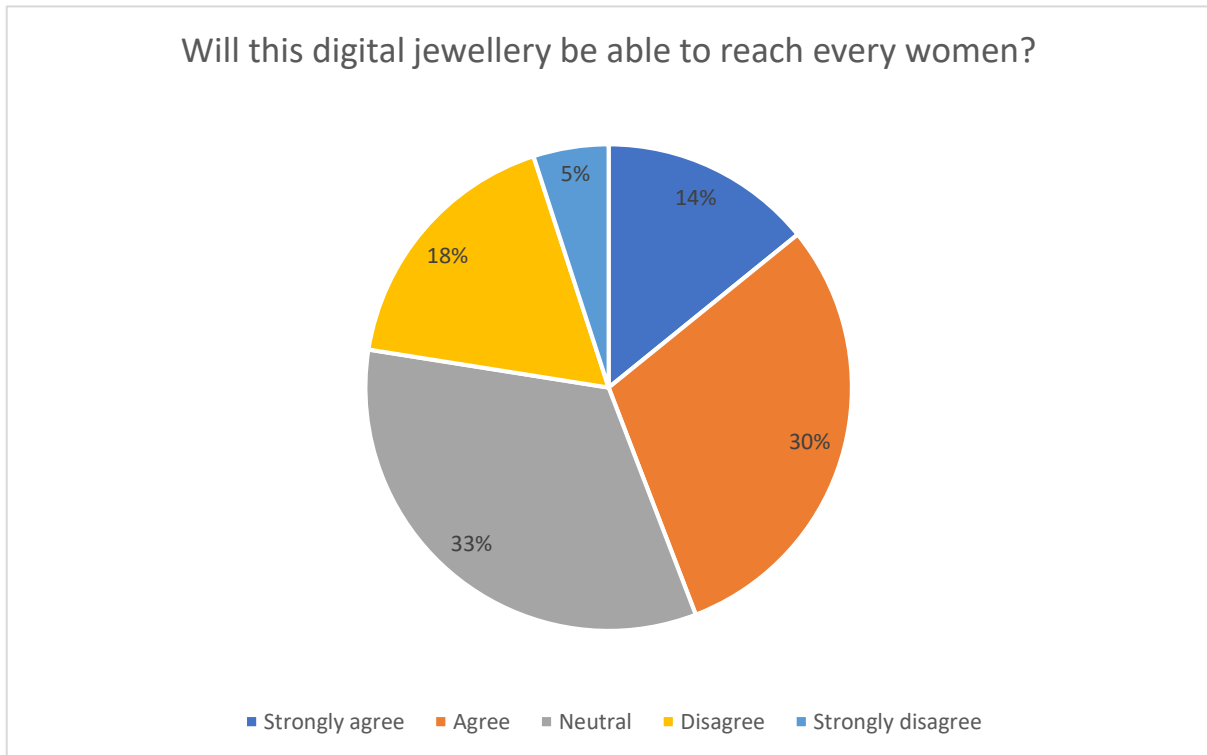
The data suggests varied perceptions on reach of digital jewellery to every women. While a significant portion perceives it as strongly agree (14%) or agree (30%), larger percentages view it as neutral (33%), disagree (18%), or strongly disagree (5%). These findings offer insights into diverse perspectives on the digital jewellery influence on India's women safety and opinions of the respondents are positive towards the impact digital jewellery will have on the nation.

Table 10: Digital jewellery could be a valuable tool for raising awareness about women's safety issues.

Raising awareness	Number of responses	Percentage
Strongly agree	32	24%
Agree	53	41%
Neutral	24	18%
Disagree	5	13%
Strongly disagree	2	4%

Digital jewellery could be a valuable tool for raising awareness about women's safety issues.

- ■ Strongly agree
- ■ Agree
- ■ Neutral
- ■ Disagree
- ■ Strongly disagree
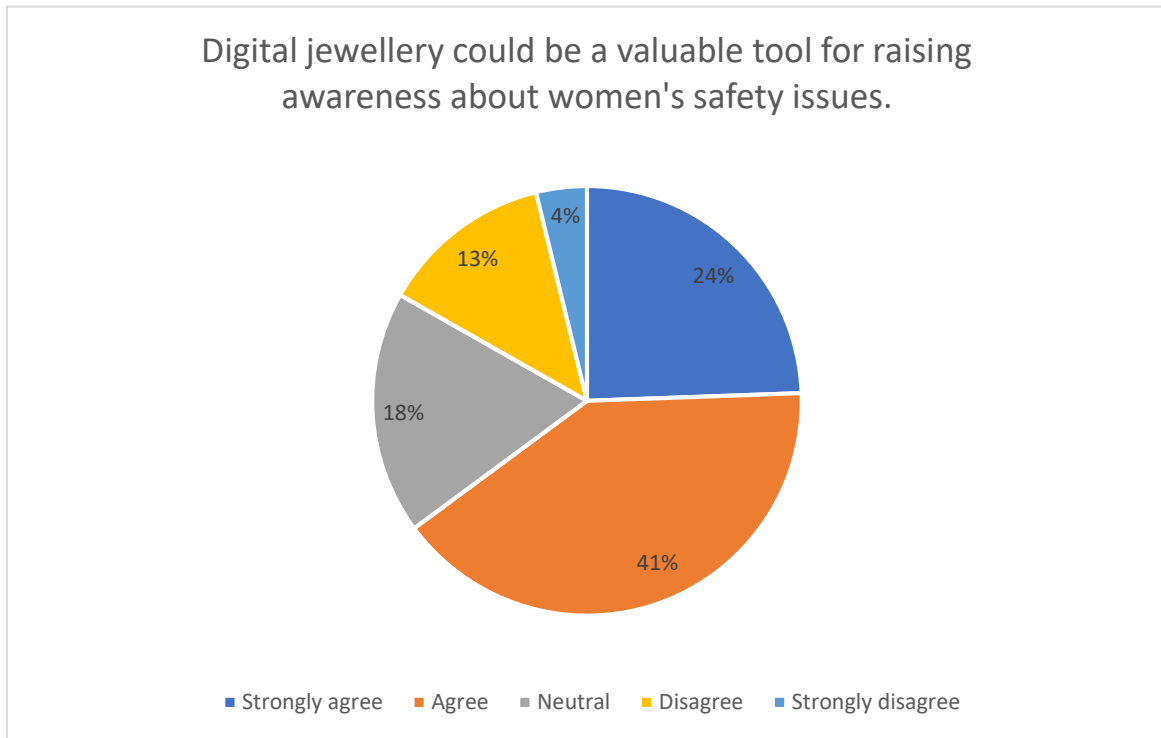
The data indicates the awareness levels of respondents regarding the digital jewellery as a valuable tool for raising awareness about women's safety issues. The majority either strongly agree (24%) or agree (41%) with their awareness, while a smaller portion either strongly disagree (4%) or disagree (13%). This suggests varying degrees of awareness among respondents and majority of them strongly agree with having awareness about digital jewellery as a valuable tool for women safety.

Table 11: Technology-infused jewellery can play a role in preventing harassment and violence against women

| Preventing	Number of responses	Percentage
Strongly agree	26	25%
Agree	48	42%
Neutral	31	18%
Disagree	10	13%
Strongly disagree	1	2%

Technology-infused jewellery can play a role in preventing harassment and violence against women
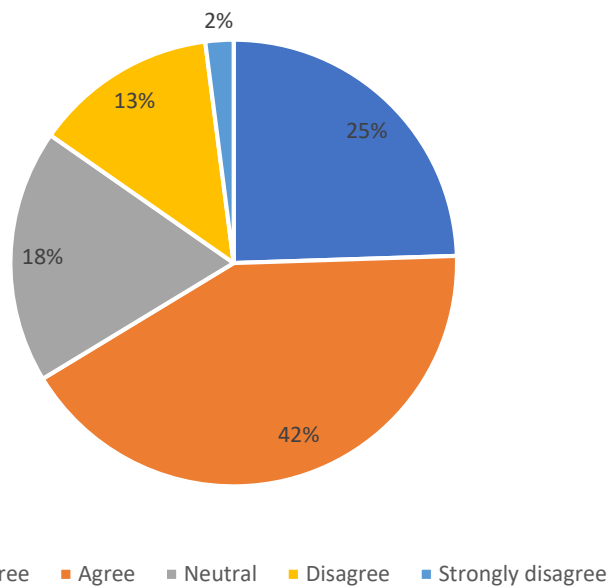
The data reveals that among respondents, the technology-infused jewellery can play a role in preventing harassment and violence against women "Strongly agree", with 25% engaging in discussions about it. This is followed by discussions about the "Agree", involving 42% of respondents. "Neutral" was consider by 18% of respondents, while 13% consider disagree option related to digital jewellery prevention of harassment and violence against women. These findings provide insights into the specific areas of interest and concern among respondents regarding the digital jewellery, which can inform communication strategies and educational initiatives to enhance public awareness and engagement.

Table 12: Women would be more likely to adopt digital jewellery if it enhances their personal safety.

Adopt digital jewellery	Number of responses	Percentage
Strongly agree	34	29%
Agree	53	46%
Neutral	22	19%
Disagree	4	3%
Strongly disagree	3	3%

Women would be more likely to adopt digital jewellery if it enhances their personal safety

Legend: ■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree
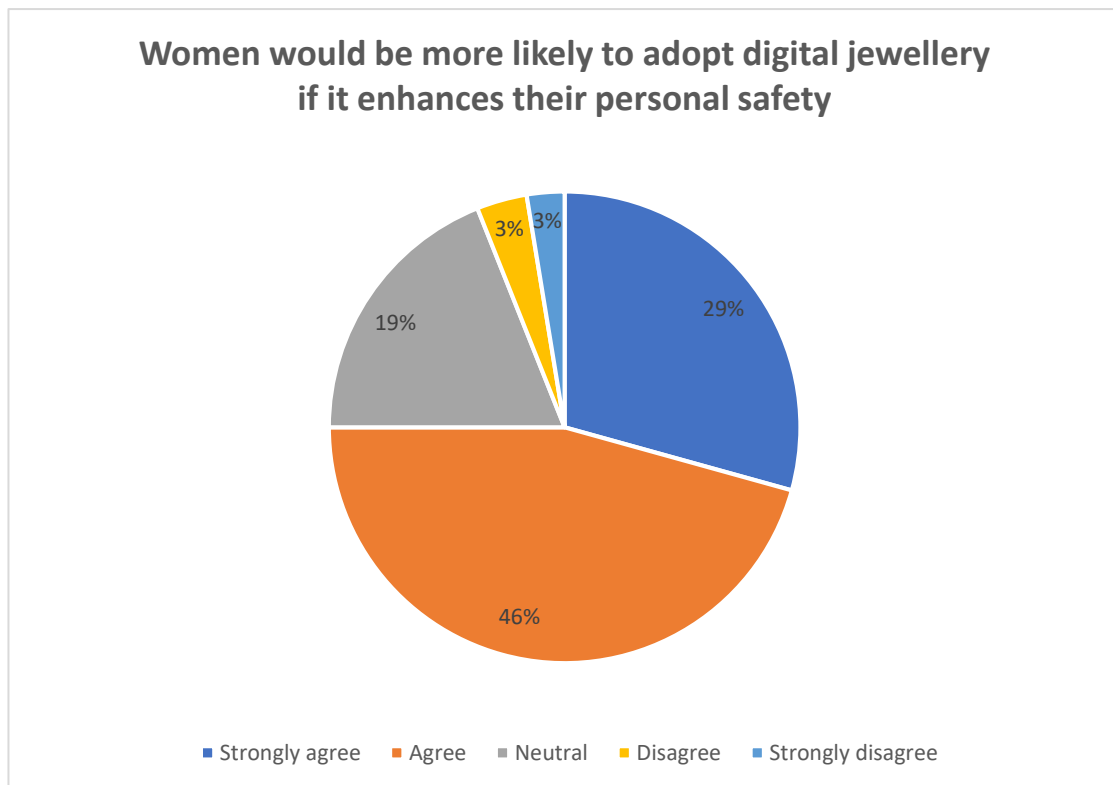
The data depicts respondents' opinions on the adoption of digital jewellery impact on personal safety of women. While the majority perceive a strongly agree (29%) or agree (46%), substantial percentages see it as neutral (19%), disagree (3%), strongly disagree (3%). These findings offer insights into varied perceptions on the adoption of digital jewellery to enhance the women safety.

Summary of findings

1. The digital jewellery industry holds immense potential for enhancing women's safety and empowerment by integrating advanced technologies such as GPS tracking, distress signalling, and biometrics.

2. Collaboration with experts in design, fashion, and technology is recommended to create innovative safety features that resonate with women's needs.

3. A user-centered approach involving interviews, surveys, and focus groups can provide valuable insights into women's preferences and requirements regarding jewellery and safety, guiding the design process effectively.

4. Continuous improvement through regular updates based on user feedback and technological advancements is crucial to ensure that digital jewellery remains at the forefront of safety and functionality.

5. Integration of advanced technologies such as emergency alarm systems, self-defence capabilities, and discreet monitoring functions into digital jewellery is essential to enhance women's safety.

6. Designing digital jewellery with a discreet yet appealing aesthetic, developing cost-effective solutions, and launching education campaigns to raise awareness among women about the benefits of these devices are essential steps towards empowering women through innovative wearable technology.

7. The design inquiry study that explores the potential of interactive jewellery and wearable computing to affect sexual harassment in social contexts.

8. The study critically investigates the prevailing status of women in the gendered imbalance technology industry particularly in the wearables sector.

Conclusion

In conclusion, the study on digital jewellery for women's empowerment and safety presents a promising avenue for leveraging wearable technology to enhance women's safety and empowerment. By integrating advanced safety features into discreet and aesthetically pleasing designs, digital jewellery has

the potential to serve as a powerful tool for women in various social settings. Recommendations such as incorporating emergency alarm systems, self-defence capabilities, and discreet monitoring functions underscore the importance of proactive safety measures.

Moving forward, it is imperative to prioritize cost-effective solutions, education campaigns, and ongoing collaboration with experts to ensure that digital jewellery remains accessible, effective, and empowering for women. By implementing these recommendations and continuously refining the design and functionality of digital jewellery based on user feedback, the research paves the way for a future where wearable technology plays a significant role in enhancing women's safety and empowerment.

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