

HUG

The Human Understanding of Garments: An Exploratory Study on Technology Inspired Clothing Design for Young Adults with Anxiety

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Introduction

Statistics show that 20% of young adults suffer from an anxiety disorder and 75% of Gen Z has had to leave a job due to mental health, particularly anxiety disorders (Anxiety, 2021). The effects of anxiety can be the most impactful during college years because of the high demands of schoolwork, adjusting to an unfamiliar environment, finances, managing relationships, and the overall new undertaking of independence (LeBlanc & Marques, 2019). Scholars and clinicians have proposed various ways to aid in the prevention and coping of anxiety disorders, such as having a balanced and healthy lifestyle (Paradigm, 2021); other researchers noted the important role of clothing in anxiety management. For instance, previous studies show that clothing choices impact wearers' emotions, self-perception, self-satisfaction, confidence, etc. Researchers have found that the way someone feels in their clothes affects the way they live (Abraham, 2020). Therefore, the researchers found the potential to use clothing to cope with anxiety.

In addition, with the quick advancement of apparel technologies and cross-disciplinary collaborations, technology-infused apparel design has been booming in recent years. Within the domain of novel apparel designs for assisting/reliving anxiety, technologies such as Nike's self-lacing shoes have brought in advancements (Sneaker News, 2016). However, there is still not a wide range of garments within the current apparel market that aid in anxiety disorder. The existing products have not yet achieved a balance among the following factors: anxiety-aiding design, aesthetics, affordability, and functionality (Core77, n.d; Deep Pressure Compression Sensory Vest: Comfortable Breathable, Form-Fitting for Kids & Adults, n.d.; Swain, 2012).

Therefore, the researchers conducted an exploratory project to study how clothing could potentially aid in preventing and easing anxiety. Specifically, the researchers investigated the clothing preferences and choices of young adults with anxiety issues and how their relationships to clothing affect their anxiety. Then the researchers proposed an unobtrusive and affordable design, which could be comfortably worn daily, to help those people with subsidizing anxiety symptoms.

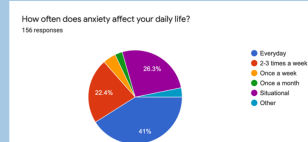


Figure 6

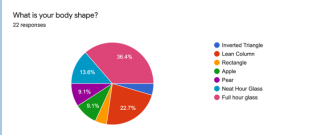


Figure 7

Method

Throughout this project, the researchers used a user-centered design approach by involving target consumers throughout the design process and product evaluation (Abrams et al., 2004). There were three steps. First, based on literature review and market research, the researchers identified 18- to 25-year-old young adults with anxiety issues as this project's target consumers. Then they developed and distributed an online survey (pre-design survey) to study how prevailing anxiety issues are in the target market and how anxiety affects target consumers' daily lives, clothing choices, and dressing behaviors. IRB approval was obtained before the survey was distributed to the public on social media, shared through the university, and by word of mouth. After analyzing the pre-design survey, the researchers sent a follow-up survey to participants who indicated in the pre-design survey that they wanted to be further involved in the research process and specified that they have experienced or are experiencing anxiety issues. This follow-up survey asked these individuals to identify their body and clothing sizes and what clothing styles made them feel the calmest. This follow-up survey helped the researchers understand the representative body size and shape and desirable aesthetics, such as color choices and fit styles, of the target market.

Second, based on survey findings, the researchers proposed a collection of three looks to help with the anxiety of the target consumers. Throughout this design and development process, they experimented with different apparel technologies, colors, materials, construction methods, and design details to accommodate the wants and needs of the target consumers. Meanwhile, they ensured the designs were at a reasonable price point to the target consumers. Later, they produced physical prototypes of one of the three looks (Figure 1) by incorporating various apparel technologies such as digital patterning, 3D virtual simulation (Figure 2 & Figure 3), laser cutting (Figure 4), digital textile printing, and air compression vest technologies (Figure 5).

Third, the researchers developed a post-design survey to collect target customers' feedback on the proposed designs and prototypes. The researchers sent it to all the participants of the follow-up survey. The team wanted to know if their target consumers were interested in the proposed designs and willing to pay for the proposed designs.

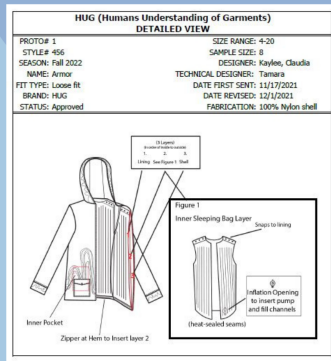


Figure 5

Results and Discussion

Overall, the pre-design survey showed a great need to develop affordable clothing with technologies for helping wearers cope with anxiety and gave the researchers valuable information to move into the subsequent design process. In total, 156 responses to the first pre-design survey were collected (average age of 21). The respondents were predominantly females (132). Almost two-thirds of all survey respondents (64.7%) reported having anxiety, but only 58% of respondents were medically diagnosed with anxiety. 41% of respondents said that anxiety affects their everyday life (Figure 6). There was a correlation between anxiety and comfort; 89.6% of the respondents reported that comfortable clothing makes them feel less anxious. Additionally, there were 22 participants in the follow-up survey. The participants had varied body sizes, with most respondents preferring oversized fit over other fit styles. Some participants further indicated that they have a desire to hide their bodies during an anxiety attack. Furthermore, the most common self-identified body shape was hourglass (36%), followed by straight (22%) (Figure 7).

The researchers then developed a mini collection of three looks based on crucial information collected in the surveys. The researchers selected a color scheme that was bright and colorful to draw attention away from the fact that this is anxiety-reducing clothing. By using compression and modular tightening elements, various pieces in the line could hit pressure points on the body. Additionally, the researchers developed air channels in jacket designs. These channels could hit the designated pressure points along the body to aid the wearer during an anxiety attack. The designers used Optitex technology to adjust fit throughout the design process to hit the designated pressure points.

Afterward, 11 responses were collected in the post-design survey. When asked about the color scheme, many respondents said that the colors reminded them of their childhoods which were bright, cheery, calm, and comforting. Most of them stated that they would wear this design and purchase it on the market.

Using a user-centered design approach, the designers had strong support from target consumers throughout the entire process. However, one of the limitations of this project is the selection of the survey population. There could have been some bias in the surveys.



Figure 4

Figure 1

Conclusion

This project started with a notice that many individuals in the 18-25 age group suffer from anxiety. This will continue to be an upcoming issue as mental health issues are continually normalized. Through surveys, the researchers found that many young adults have anxiety symptoms and that most go untreated. The researchers also identified the potential use of technologies in developing anxiety-relieving clothing. Positive evaluation results and feedback on proposed designs indicated the success of this project and the value of incorporating bright and fun colors, technologies, oversized fit, and functional details in anxiety-relieving clothing.



Figure 2



Figure 3

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