

## How Graphic Design on Clothes Can Reduce Generation Z Anxiety: An Exploratory Study

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**Introduction.** The global outbreak and spread of the coronavirus in recent years have escalated concerns over mental health worldwide. Generation Z is heavily influenced since they were born in a generation closely connected to the Internet of Things (IoT), social media, and technology. This overwhelming flood of information, especially during the COVID-19 pandemic, has led Generation Z to experience various forms of depression, anxiety, stress, sleep problems, and psychological distress (Lestari & Astuti, 2021). Despite the effectiveness of counseling, cognitive-behavioral therapy (CBT), color, and art therapy as primary treatments for anxiety disorders, accessing professional therapists poses significant challenges (Kaczurkin & Foa, 2022). To address this problem, the current study explores how graphic design on clothes can alleviate anxiety among Generation Z based on the Attention Restoration Theory (ART). The findings of this study can help individuals experiencing anxiety better understand the factors that can relieve anxiety and increase happiness, which may ultimately lead to improved mental well-being and a higher quality of life.

**Literature Review.** According to Kaplan's (1995) Attention Restoration Theory (ART), exposure to natural surroundings and gentle charms, such as spacious spaces, engaging activities, and softly engaging stimuli, can rejuvenate the mind and reduce anxiety. The theory also suggests that incorporating these soft and charming elements into graphic design can provide similar anxiety-relieving benefits. Specifically, three attributes in graphic design - patterns, color, and fonts - have the potent ability to reduce anxiety. Research has found that patterns can be powerful tools for influencing feelings (Lu et al., 2012), especially when combined with cuteness elements (baby cuteness and whimsical cuteness). Baby cuteness focuses on infants or young animals exhibiting specific responses or characteristics that attract and stimulate viewers and evoke caring and protective instincts, whereas whimsical cuteness emphasizes playfulness and fun expressions that evoke feelings of care, protection, and love (Suci & Wang, 2023). The application of colors also has a great impact on human mental health; thus, colors are used to promote health and ease anxiety in many cultures ("Color Your World", 2018). Furthermore, fonts could influence the mood, tone, and meaning of the text when conveying messages. The feature of font can turn simple message-conveying into something as interesting as storytelling (Suci & Wang, 2023). Previous studies have found that people have specific subjective impressions of different fonts, such as happy, excited, attractive, formal, casual, disturbed, unhappy, complex, etc. (Suci & Wang, 2023).

**Methodology.** This study employed a conjoint analysis approach to investigate how consumers prioritize preferred product attributes on a psychological level. Conjoint analysis is a practical

decision-making model that simulates real purchasing situations, allowing consumers to evaluate products (Bajaj, 1999). This research selected white T-shirts as the product of interest due to their commonality and ease of purchase. Three product attributes and their corresponding levels were examined: pattern (baby, cat, dessert, flower), color (pink and green), and slogan font (Times New Roman and Jokerman font). To minimize the survey length while obtaining the most precise estimates, an orthogonal experimental design was used (Krystallis & Ness, 2005). As a result, 8 out of 16 conjoint cards were generated. The study recruited 428 individuals via Amazon MTurk, aged 18 to 26 years, living in the United States, and having experienced or suffered from anxiety or stress. Of these, 370 valid responses were retained for data analysis. In addition to the screening question and demographic question, the survey asked consumers to imagine they are shopping for a T-shirt in their favorite style and size, which vary in terms of patterns, colors, and the font of slogans. Additionally, consumers' level of anxiety was measured using the Beck Anxiety Inventory (BAI).

**Findings and Discussion.** Pearson's R value ( $r=0.998$ ) and Kendall's Tau value ( $\text{Tau}=1$ ) indicate high reliability of the model. As presented in Table 1, patterns (62.088%) had the highest relative importance value, followed by color (32.692%), and fonts (5.220%). Thus,

Table 1. Conjoint Analysis Result

Attributes	Relative Importance (%)	Levels	Part-Worth Utility
Patterns	62.088 %	Baby	.075
		Cat	.058
		Dessert	-.082
		Flower	-.050
Color	32.692 %	Pink	.041
		Green	-.041
Fonts	5.220 %	Times New Roman font	-.007
		Jokerman font	.007

patterns were identified as the most effective attributes in reducing anxiety. These findings are consistent with previous research, indicating that consumers prefer cute pattern designs that are more attractive and pleasant (Suci & Wang, 2023). Furthermore, the part-worth utility value shows a preference for patterns that symbolize baby cuteness, such as babies (.075) and cats (.058), over whimsical cuteness, such as flowers (-.050) and desserts (-.082). This preference aligns with previous research, showing

that products featuring cute elements, especially those related to baby cuteness, are more effective in reducing anxiety (Chou et al., 2022). It's also worth noting that while patterns are most effective in reducing anxiety, both color and font also contribute to anxiety reduction. Consistent with previous studies, pink (.041) is found to be the most soothing color as it can evoke a soft and peaceful feeling (Cerrato, 2012). Regarding fonts, Jokerman font (.007) is identified as the most effective in reducing anxiety, making people feel happy and interested, thereby reducing anxiety and anger (Suci & Wang, 2023).

**Conclusions and Implications.** Overall, the results of this study have several academic and managerial implications. First, this research offers a pioneering exploration that bridges fashion design and psychological issues, which could stimulate collaboration across fields such as psychology, fashion design, marketing, and sociology. This interdisciplinary approach could create a comprehensive understanding that supports mental health and well-being. Furthermore, this study offers valuable managerial insights for industry professionals. It highlights the

strategic importance of integrating psychological insights into fashion design. Fashion brands or designers can innovate products by incorporating anxiety-relieving elements. Additionally, the findings can guide companies in leveraging marketing strategies and brand positioning to highlight how their products benefit mental health. This approach could help the brand stand out in the competitive market and align with social movements for mental health awareness, potentially building brand loyalty.

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