Does AI Have a Mind? Consumers' Perceptions of the Function, Expression, and Aesthetics of AI-Designed Apparel

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Background and Purpose. Fashion design and product development processes are being revolutionized by artificial intelligence (AI). For example, Amazon developed algorithms to design apparel from scratch by analyzing different photos and styles (Knight, 2017). Research on consumer responses to AI-generated creative works has been limited and inconsistent. Some studies suggest that AI-created work is not distinguishable from human-created work (Elgammal et al., 2017), while others indicate that consumers appraise AI-generated art or AI-designed products lower in aesthetic, expressive, and emotional values but higher in functional value (Hong & Curran, 2019; Xu & Mehta, 2022). Despite the potential cost savings and increased production speed that AI as a fashion designer can offer, consumer responses to AI-designed apparel and underlying reasons that influence those responses have been rarely studied. To tackle this gap, the goal of this paper is to put forward a conceptual model (see Figure 1) with mind attribution as an antecedent and attitude toward AI-designed apparel and as a consequence of consumers' perceptions of AI-designed apparel.

Figure 1
A Conceptual Model of Perceived AI-Designed Apparel
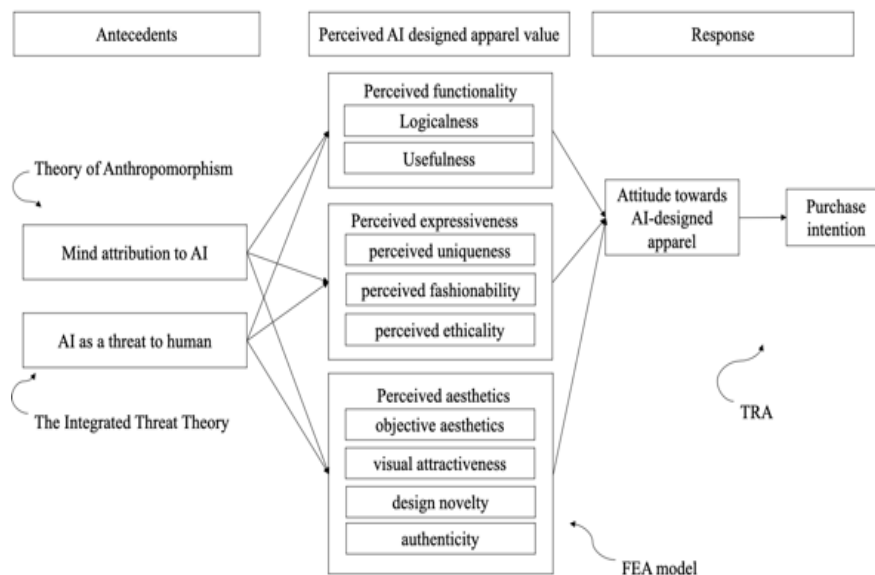
Theoretical Framework and Propositions. The theory of anthropomorphism (Epley et al., 2007) posits psychological determinants of anthropomorphism, or the human tendency to assign human attributes to non-human agents. Mind is the central attribute that defines being a human (Haslam, 1998); thus, attributing a mind to a non-human object is the primary mechanism of anthropomorphism and encompasses two main dimensions of agency

(mind's ability to plan and act) and experience (mind's capacity to feel and sense) (Gray et al., 2007).

The functional-expressive-aesthetic (FEA) consumer needs model (Lamb & Kallal, 1992) suggests that apparel is considered desirable if its functionality (the utility and usefulness of a product), expressiveness (communication of the wearer's tastes and identity), and aesthetic (the pleasure derived from the visual design) meet the consumer's needs (Lamb & Kallal, 1992). First, functionality is a key feature of a creative item and pertains predominantly to how logical and useful the item is (O'Quin & Besemer, 2006). The designer's mind is needed to design a logical and useful apparel product as they require the designer's experience with the product and thoughtful consideration of the consumer body during the design process (Krippendorff, 2005). Given this, we propose that

Proposition 1: *Consumers' level of mind attribution to AI positively influences their perceived functionality (e.g., logicalness and usefulness) of AI-designed apparel.*

Expressiveness relates to clothing as a medium for individuals to express themselves (Lamb & Kallal, 1992), such as their uniqueness (the originality that distinguishes one from others; Boztepe, 2007), fashionability (leadership or involvement in popular trends at a given time; Jackson, 2001), and ethicality (ethical, altruistic, and moral beliefs; Kumar & Noble, 2016). The designer has to effortfully understand consumers' psychology and intentionally use signs and symbols to provide the product with expressive attributes (Krippendorff & Butter, 1984). Thus, we propose that

Proposition 2: *Consumers' level of mind attribution to AI positively influences their perceived expressiveness (e.g., uniqueness, fashionability, and ethicality) of AI-designed apparel.*

Aesthetic is the hedonic value of a product, which involves the pleasure and enjoyment users obtain from its design (Kumar & Noble, 2016). Objective aesthetics (Seifert & Chattaraman, 2020), visual attractiveness (Besemer & Treffinger, 1981), design novelty (Kumar & Noble, 2016), and authenticity (Lehman et al., 2019) are key design aesthetics components that consumers may be impacted as they assess the aesthetic of AI-designed apparel items. The objective aesthetic denotes an unbiased assessment of the order and clarity of the design (Seifert & Chattaraman, 2020) which generates a sense of harmony and unity in visual design. Objective aesthetics require the skill of the designer to put the different design elements together in an orderly manner (Kumar & Noble, 2016). Visual attractiveness is an artistic term for the beauty, charm, and elegance of an object (Besemer & Treffinger, 1981). Although attractiveness is about the visual aesthetics of the design, the indicators of attractiveness do not solely lay in the design, but the source of design and production history can change the perceived attractiveness of a product. For example, people find handmade products more attractive because they are the result of human passion (Fuchs et al., 2015). Design novelty signifies a deviation from prototypical design and viewers' prior experiences with the product category (Kumar & Noble, 2016). Novelty is representative of the designer's creativity and represents the process through which a designer uses their talent, ability, and knowledge to design a novel item (Amabile, 1982; Sarkar & Chakrabarti, 2008). An item is authentic as it is associated with a specific individual, location,

or time period, as declared (Lehman et al., 2019). Given the above discussion, aesthetics can be considered to reflect the mind, particularly the emotions and feelings, of the designer imbued in the product. Therefore, we propose that

> **Proposition 3***: Consumers' level of mind attribution to AI positively influences their perceived aesthetics (e.g., objective aesthetics, visual attractiveness, design novelty, authenticity) of AI- designed apparel.*

The theory of reasoned action (Ajzen & Fishbein, 1975) postulates that people's beliefs or perceptions about an object impact their attitudes toward the object, or the overall favorable or unfavorable evaluation of the object. Based on this, we propose that

> **Proposition 4***: Consumers' perceptions of the (a) functionality, (b) expressiveness, and (c) aesthetics of AI-designed apparel positively influence their attitudes towards AI-designed apparel.*

Conclusion and Implications. This conceptual paper integrates the theory of anthropomorphism, FEA consumer needs model, and theory of reasoned action to propose a mind attribution perspective to assessing consumers' response to AI-designed apparel. It offers a framework delineating diverse dimensions of consumer perceptions that apparel companies must take into account in adopting AI as a fashion designer and stimulates future research to examine the use of AI in apparel design and product development processes from consumers' perspectives.

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