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Stylish Virtual Tour: Exploring Fashion's Influence on Attitude and Satisfaction in VR Tourism

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Stylish Virtual Tour: Exploring Fashion's Influence on Attitude and Satisfaction in VR Tourism

Abstract

Purpose – This study aims to investigate the influence of different virtual fashion styles on attitude and satisfaction within Virtual Reality (VR) tourism experiences. The investigation considers the mediating effect of perceived attractiveness, popularity, novelty, and weirdness, as well as the moderating role of self-congruence with avatar clothing and the desire for unique products.

Design/Methodology/Approach – This research employs a quantitative experimental approach. Initially, a three-step pilot study (N= 201) was conducted to select avatar fashion styles for the main investigation. In the primary study, participants (N= 326) engaged with one out of four fashion style conditions to select attire for their avatars and then completed a self-administered survey. Data analysis involved paired-sample *t*-tests, MANOVA, and Hayes' PROCESS Models.

Findings – The results show that presenting fantasy avatar fashion styles leads to a decrease in perceived attractiveness and popularity, while concurrently increasing perceptions of novelty and weirdness, which in turn exert a negative influence on attitude and satisfaction with the Virtual Fitting Room (VFR). However, these relationships change when considering the moderating role of self-congruence with avatar clothing and the desire for unique products.

Practical Implications – VR tourism experience providers and designers can utilize research findings to bolster positive attitude and enhance satisfaction with VFR; an important first step that strongly affects the rest of the VR tourist journey.

Originality/Value – This study contributes to tourism research by exploring the intersection of immersive technologies and virtual fashion. It emphasizes the enhancement of critical touchpoints like the VFR, moving beyond a sole focus on VR adoption, to improve the overall virtual tourist experience.

Keywords: Tourism Experience; Attitude; Satisfaction; Virtual Reality; Virtual Fashion; Self-Congruence; Desire for Unique Products.

Paper Type: Research Paper.

1. Introduction

Immersive technologies, especially Virtual Reality (VR), are transforming various industries, including tourism (Flavián *et al.*, 2021; Loureiro *et al.*, 2020). VR users can now explore cruise vacations (Martínez-Molés *et al.*, 2022), participate in museum tours (Wang *et al.*, 2023), and visit numerous tourist destinations without leaving their virtual environments (Wei *et al.*, 2023). Therefore, understanding how these technologies engage consumers across the stages of the VR tourist journey is crucial (Flavián *et al.*, 2019, 2021). Specifically, incorporating VR technology seamlessly into various phases of the tourism experience is considered crucial (Buhalis *et al.*, 2023), demanding the enhancement of VR elements such as user interfaces and navigation within virtual tourism settings (Beck *et al.*, 2019).

Similarly, virtual attire has already begun to make its mark (Chan *et al.*, 2023). In Meta's Connect 2021 conference, Mark Zuckerberg mentioned that metaverse users would have a virtual wardrobe with different outfits for various situations (Palumbo, 2021). The increasing acceptance of virtual fashion will continue as brands extend their presence into digital worlds like the metaverse (McKinsey & Co., 2022).

Previous studies have found a significant influence of individuals' chosen fashion styles on their attitudes and behavior (Ghose *et al.*, 2023). However, most of these studies were either conducted in the context of real-life customer or tourist experiences, or they did not directly address the effect of virtual fashion styles (Takano and Taka, 2022), leaving a notable gap in the literature regarding how fashion styles influence attitude and behavior in a virtual environment. As a result, uncertainties persist regarding whether established factors, such as perceived attractiveness, popularity, novelty, and the perception of weirdness arising from unconventional styles, play the same mediating role between fashion styles and attitudinal and behavioral responses in virtual environments as observed in real life, or exhibit different roles in the virtual context. In essence, in real-life experiences, perceived attractiveness, popularity, and novelty enhance the experience (Franke *et al.*, 2023; Yuan *et al.*, 2021), while perceived weirdness has a negative impact (Lyng-Jorlén, 2020). However, in virtual environments, it is not yet clear which fashion styles may influence these variables, and whether these variables will have a similar impact on behavior.

Although consumers are motivated by a diverse array of styles (Blazquez, 2014), an abundance of virtual fashion styles can result in confusion and a negative experience, commonly known as "overchoice" or "product overload" (Heitmann *et al.*, 2007). Therefore, service providers should present a judicious selection of avatar clothing options, especially in virtual tourism experiences

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involving interaction with other tourists, where clothing is an integral part of the experience. This selection of avatar fashion styles is expected to produce a more positive attitude and satisfaction. User attitude often influences subsequent behavior (Tussyadiah *et al.*, 2018), and satisfaction is a direct measure of how well the virtual touchpoint meets users' expectations (Bolton *et al.*, 2022; Soares *et al.*, 2022) so they are key constructs to consider. Consequently, the primary objective of this study is to investigate the impact of distinct avatar fashion styles (namely, conventional/real-life styles like sporty/comfy and urban chic vs. fantasy fashion styles such as funnily weird and futuristic) on desirable outcomes of the VR experience, including positive attitude and satisfaction.

VR experiences allow individuals to self-present and express diverse facets of their identity. In this context, self-congruency theory posits that individuals are more disposed to embrace an object or concept when they can establish a personal connection to it (Boksberger *et al.*, 2011; Sirgy *et al.*, 1997). Nevertheless, within the virtual world, it remains uncertain whether self-congruency will justify the adoption of unconventional fantasy fashion styles, which diverge from societal norms, or whether self-congruency with one's avatar style will correlate with a higher degree of alignment between virtual and real-life appearance (Javornik *et al.*, 2021).

Furthermore, there are variations among individuals (Simonson and Nowlis, 2000) in their inclination toward unique products (including avatars). Therefore, it is important to explore if a stronger desire for uniqueness drives the preference for unconventional choices, especially considering the recognized gap in the literature regarding the role of the desire for unique products in shaping or modifying the effect of fashion styles on tourists' behavior in a VR context. Based on that, the second objective of this study is to explore whether self-related variables, such as self-congruence with avatar clothing and the desire for unique products moderate the pathways of influence exerted by avatar fashion styles.

To fulfill our research objectives, we conducted a three-step pilot study to design the avatar attires, followed by a main experiment. Our findings reveal diverse impacts of different avatar fashion styles on perceived attractiveness, popularity, novelty, and weirdness. Importantly, the first, second, and fourth factors emerge as negative mediators as the shift from real-life styles to fantasy fashion styles reduces perceived attractiveness and popularity while increasing perceived weirdness, ultimately detrimentally affecting the studied outcomes. Nevertheless, self-congruence with avatar clothing and the desire for unique products mitigate these effects. Based on these findings, our study makes a significant contribution to tourism theory by examining the intersection of immersive technologies and virtual fashion. Moreover, it offers actionable insights for marketers and VR tour providers, facilitating the design of a more satisfying Virtual Fitting Room (VFR) experience.

2. Theoretical Background and Hypotheses Development

2.1. Virtual Fitting Room in VR Tourism

Applying VR technology in tourism entails the creation of a virtual setting using real-world content through an immersive VR system (Balakrishnan *et al.*, 2024). This facilitates virtual environments that engage not only the user's visual perception but also stimulate other senses (Flavián *et al.*, 2019; Leung *et al.*, 2024). These environments can be used to create on-site experiences, explore inaccessible or extinct tourist sites, or even immerse users in entirely fictional places (Bec *et al.*, 2019). However, regardless of the type of VR experience, previous research has emphasized the necessity of enhancing each touchpoint throughout the virtual tourist journey (Belk *et al.*, 2023; Flavián *et al.*, 2019, 2021; Stylos, 2022).

The VR tourist journey broadly comprises three stages: pre-VR experience, experience and post-experience (Orús *et al.*, 2021). These stages involve different touchpoints, some of them significantly impacting all other stages. The creation of an avatar plays a pivotal role in all stages of a VR tourist journey, thus making VFR a crucial touchpoint that warrants research attention. Before the site VR experience, VFR allows users a virtual try-on experience on a virtual model or a 3D avatar (Lee and Yuan, 2023). While previous research has explored VFR applications in different contexts, primarily retail (e.g., Lee and Yuan, 2023), it has not been yet investigated within the context of virtual tourism, especially concerning how fashion styles presented in VFR may impact the VR experience. To address this research gap, we focus on VFR as a pivotal touchpoint in the VR tourism experience, providing users with the ability to personalize their appearance during virtual group tours. We posit that to enhance this crucial touchpoint and elevate the overall VR tourism experience, it is imperative to improve positive attitude and satisfaction with VFR by strategically incorporating key yet effective fashion styles.

2.2. Decoding Virtual Style: Important Factors for Consideration

Fashion products are categorized into primary groups: basics (functional items), classics (timeless staples), heroes (current trends), and fads (briefly popular, often due to celebrity exposure) (Boardman *et al.*, 2020). The effectiveness of these fashion styles can vary considerably due to contextual or personality factors (Javornik *et al.*, 2021). Moreover, when designing or adopting fashion styles for various contexts, including virtual environments, it is vital to consider factors like perceived attractiveness, popularity, novelty, and weirdness, as they influence the overall style success and acceptance (Zanin Bagatini *et al.*, 2023).

Attractiveness is subjective and varies among individuals. Consequently, creating a virtual fashion style that is generally perceived as attractive enhances acceptance and marketability, and potentially leads to higher engagement. Like the real-life context, attractiveness in virtual clothing is perceived through well-designed aesthetics and alignment with user preferences (Lee and Xu, 2019). Regarding popularity, this factor plays a significant role in fashion, often influenced by media and the capture of popular trends by fashion brands (Atik and Firat, 2013). Concerning virtual garments, trendy items are likely to be popular, and a virtual fashion style perceived as popular is more likely to be adopted by a larger audience (Cengiz, 2017).

The inclusion of human-like elements in virtual contexts significantly enhances the perception of attractiveness and popularity (Lee and Yuan, 2023). When individuals encounter virtual representations of others wearing real-life fashion styles, these styles act as mirrors reflecting their personal fashion preferences (Lee and Yuan, 2023). Consequently, we propose that in virtual environments, *real-life fashion styles* tend to elicit heightened perceptions of attractiveness and popularity when compared to *fantasy fashion styles*. The appeal of these real-life styles predominantly arises from their association with well-established fashion styles. This sense of familiarity fosters a deep sense of comfort and attraction, as individuals naturally gravitate toward styles they have encountered and admired in the tangible realm (Blazquez *et al.*, 2017). Based on this, we hypothesized:

H1. Real-life fashion styles (compared to fantasy fashion styles) increase perceived (a) attractiveness, and (b) popularity.

Novelty is a driving force for fashion innovators. A fashion style that introduces new and innovative elements can capture attention and generate interest (Blumer, 2017). Novel fashion styles can help stand out from competitors, attracting consumers looking for something unique and fresh, as novelty-seeking consumers engage in innovative dressing behavior in their quest for new items (Zeba and Ganguli, 2019). Moreover, while weirdness might seem counterintuitive in general, it can be a positive factor if the goal is to push boundaries and challenge conventional norms (Proudfoot and Fath, 2021). Therefore, some fashion designers may intentionally embrace weirdness to cater to specific subcultures or niche markets that appreciate unconventional aesthetics (Franke *et al.*, 2023). Weirdness can be one defining element of virtual fashion, as the lack of physicality allows flexibility in design and motivates consumers to take risks and explore different identities (Chan *et al.*, 2023).

In contrast to attractiveness and popularity, we argue that real-life fashion styles, compared to fantasy fashion, may result in lower levels of perceived novelty and weirdness in a virtual context.

This is because these styles are already well-established, and when translated into a virtual environment, they may not appear as innovative or unique. Virtual worlds often provide the opportunity to explore unconventional styles that are not easily achievable or socially accepted in physical reality. As a result, real-life fashion styles may be perceived as less novel in comparison (Franke *et al.*, 2023). Therefore, we hypothesize:

H1. Real-life fashion styles (compared to fantasy fashion styles) decrease perceived (c) novelty and (d) weirdness.

Up to this point, we have argued that real-life avatar fashion styles, in comparison to fantasy fashion, are likely to boost perceived attractiveness and popularity while reducing perceived novelty and weirdness. Nevertheless, it is essential to examine whether these factors mediate the relationship between fashion styles and desirable outcomes. Drawing from existing research that highlights the positive effects of perceived attractiveness, popularity and novelty on how shoppers perceive fashion choices (Franke *et al.*, 2023; Yuan *et al.*, 2021), and recognizing that peculiar avatars, similarly to human weird images, are likely to negatively affect attitude (Klebl *et al.*, 2023), we hypothesize:

H2. Real-life fashion styles (compared to fantasy fashion styles) enhance positive attitude toward VFR through the mediators of (a) attractiveness (negatively), (b) popularity (negatively), (c) novelty (positively), and (d) weirdness (negatively).

H3. Real-life fashion styles (compared to fantasy fashion styles) enhance satisfaction with VFR through the mediators of (a) attractiveness (negatively), (b) popularity (negatively), (c) novelty (positively), and (d) weirdness (negatively).

2.3. The Role of Self-Congruence and Uniqueness

In digital environments, individuals substitute their physical presence with an avatar surrogate, embodying traits like appearance, personality, and identity (Hadi *et al.*, 2023). Consequently, avatars function as representations of users within virtual environments, irrespective of the underlying technology (Zimmermann *et al.*, 2023). VR offers users several tools for avatar customization, including skin color, physique, facial features, attire, and accessories. This customization allows users to envision potential selves and create distinct personas, thereby facilitating their presence and social interactions in virtual environments (Fokides, 2020). A primary motivation behind avatar creation is the portrayal of one's identity (Belk, 2013).

Literature acknowledges two predominant perspectives, one in which avatars function as virtual extensions of the offline selves, and another in which avatars serve as mere artifacts (Mancini and Sibilla, 2016). Within this context, self-congruency theory underscores the importance of aligning an image, product, or destination with an individual's self-concept which means that individuals have a greater inclination to embrace an object if they can establish a personal connection with it (Sirgy *et al.*, 1997). Javornik *et al.* (2021) emphasize the significance of seeking behavioral and cognitive variety which leads to the adoption of novel appearances and, ultimately, the cultivation of "new selves". Nonetheless, the authors demonstrate that elevated levels of self-congruence narrow the gap between ideal and actual attractiveness, thereby influencing confidence in product selection and subsequent behavioral responses in VR environments. In a related vein, Zimmermann *et al.* (2023) ascertain substantial congruence between the attributes of avatars, the attributes of users' real selves, and the attributes of their ideal selves. Notably, the physical and demographic characteristics of avatars appear to align with the characteristics of users' actual selves. Expanding on this insight, we hypothesize:

H4. Self-congruence with avatar clothing moderates the mediated path from avatar fashion styles to (a) positive attitude toward VFR and (b) satisfaction with VFR via perceived (1) attractiveness, (2) popularity, (3) novelty, and (4) weirdness.

In other words, when individuals strongly identify with their avatar's clothing, the negative indirect effects of avatar fashion styles on positive outcomes of the VFR experience tend to decrease or be alleviated, while the positive effects increase.

Finally, certain individuals demonstrate a conspicuous need for uniqueness, discernible through their inclination to procure distinctive products (Cheema and Kaikati, 2010). These customers are less likely to be satisfied with mainstream offerings and more motivated to participate in unconventional and innovative ideas or activities (Montañés-Del-Río and Medina-Garrido, 2020). In this context, Simonson and Nowlis (2000) observe that individuals with heightened levels of need for unique products often opt for unusual choices and exhibit an increased propensity for unconventional decision-making. This phenomenon is prominent in sectors like tourism and fashion (e.g., Chang *et al.*, 2019). Therefore, we hypothesize:

H5. The desire for unique products moderates the mediated path from avatar fashion styles to (a) positive attitude toward VFR and (b) satisfaction with VFR via perceived (1) attractiveness, (2) popularity, (3) novelty, and (4) weirdness.

In other words, when individuals tend to desire unique products, the negative indirect effects of avatar fashion styles on positive outcomes of the VFR experience tend to decrease or be alleviated, while the positive effects increase.

Figure 1 summarizes our proposed research model.

[Figure 1]

3. Method

3.1. Pilot Study: Avatar Fashion Styles Selection Process

To develop valid stimuli for the main study, we employed a three-step approach (Web Appendix A). First, we convened a panel of six experts from the domains of fashion, tourism research, and web design. We introduced our research project and sought input to establish the fashion styles to be considered using the previously mentioned classification of fashion styles, literature on key fashion styles used for tourism purposes (Buckley, 2010) and in contexts like gaming (Chan *et al.*, 2023). The panel reached a consensus on four principal styles to feature in the investigation: comfy/sporty, urban chic, funnily weird, and futuristic. The first two represent the most currently fashionable preferences observed among urban tourists. The latter two offer potential choices for integration into virtual worlds, adding an edgy element to the experience.

Second, we utilized *dezgo.com*, an AI tool that generates avatar images based on text descriptions to produce images of avatars wearing the predetermined fashion style. To control extraneous variables the facial region of the avatars, specifically above the mouth, was deliberately omitted following Blazquez *et al.* (2017) and Shin and Lee (2021). For each fashion style, more than 20 images were initially generated and, from them, a subset of three female and three male images per fashion style were chosen to ensure experimental procedural simplicity. The definitive assortment of images was decided through consultation with the expert panel, culminating in unanimous agreement on 24 images, with six images for each unique style.

Finally, following Huang and Kwon (2023), we presented images representing the fashion styles randomly to four distinct cohorts known for their strong inclination toward fashion consumption (Comfy/sporty: N= 50, 58% female, $M_{age}= 37$; Urban chic: N= 51, 58.82% female, $M_{age}= 36.33$; Funnily weird: N= 48, 60.42% female, $M_{age}= 34.15$; Futuristic: N= 52, 55.77% female, $M_{age}= 34.90$). Participants were instructed to rate the degree of comfort/sportiness, urban chicness, weirdness, and

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futurism associated with the assigned category, employing a 7-point rating scale. Through a series of paired-sample *t*-tests, it was ascertained that each set of images was consistently perceived to effectively embody the intended style (all *p*-values < 0.001). The mean ratings for each sample are presented in Web Appendix B.

3.2. Main Study: Research Procedure and Data Collection

To examine our hypotheses, we conducted an experimental study. Participants were explained that they would engage in a VR tourism experience in a historical city where they would be joined by tourists from various parts of the world. During this experience, they would have the opportunity to interact with one another, explore the tour sights together, and perceive each other as if physically present. Furthermore, participants were informed that, before starting, they needed to customize their avatars for the experience. Each participant was then randomly assigned to one of four VFRs, where they viewed images of outfits representing one of the defined fashion styles (see images in Figure 2). Subsequently, participants were then asked to respond to questions regarding our study factors.

Participants were recruited through Prolific, and they were US residents with prior VR experience, with 31.3% reporting VR usage weekly. Initially, 340 participants completed the questionnaire. However, 12 participants were excluded due to failing attention checks, and 2 participants were detected as outliers when applying the Mahalanobis *d*-square test (Cohen *et al.*, 2013). Consequently, our final sample comprised 326 participants (*M*_{age}= 37.20, 43.3% female). The participants were distributed as follows: 80 "sporty/comfy", 82 "urban chic", 81 "funnily weird", and 83 "futuristic". The participants in the four experimental conditions did not differ in the background variables of age and gender.

[Figure 2]

3.3. Scales and Pretest

We employed validated measurement scales to assess the constructs under investigation. Table 1 provides the adapted items and scale sources. Before the main survey, a pre-test involving 14 volunteers was conducted to identify and address potential comprehension issues. As a result, some items underwent minor wording revisions, and two items were excluded (one on novelty and one on attitude toward VFR) due to confusion expressed by several participants. The items used to assess attractiveness, novelty, and popularity were rated on a 7-point semantic differential scale (e.g.,

unattractive; attractive), while the remaining questions were rated on a 7-point Likert scale (1= “strongly disagree”; 7= “strongly agree”).

[Table 1]

Finally, to mitigate common method bias (CMB), we used procedural (a priori) techniques, including strategies to minimize consistency motifs and social desirability effects on data. Participants were emphasized the importance of their genuine opinions and were offered an incentive for participation. To further prevent the influence of implicit theories, questions about independent and dependent variables were separated into distinct pages in the online questionnaire (Podsakoff *et al.*, 2003).

3.4. Assessment of the Measurement Model

To assess the solidity of the measurement model, first, we evaluated internal consistency, scale reliability, and convergent validity using Cronbach's α , Composite Reliability, and Average Variance Extracted (AVE), respectively. The results demonstrate that all values surpass the established thresholds of 0.7 for Cronbach's α and Composite Reliability (Netemeyer *et al.*, 2003) and 0.5 for AVE (Fornell and Larcker, 1981) (Table 1). Second, we confirmed the absence of multicollinearity concerns by calculating tolerance (all values exceeded 0.1) and Variance Inflation Factors (VIF) (all values were below 5) (Hair *et al.*, 2011).

4. Results

Effects of Fashion Styles on Perceived Attractiveness, Popularity, Novelty, and Weirdness.

H1 was tested through a multivariate analysis of variance (MANOVA) to examine the effect of avatar fashion styles on perceived attractiveness, popularity, novelty, and weirdness. The MANOVA results demonstrated a significant main effect of the fashion style condition, Wilks' $\lambda = 0.36$, $F(12, 884) = 33.40$, $p < 0.001$, $\eta^2 = 0.29$. Specifically, the MANOVA revealed a main effect of the fashion style condition on attractiveness, $F(12, 884) = 18.99$, $p < 0.001$, $\eta^2 = 0.15$. Participants perceived the sporty/comfy ($M = 5.66$, $SD = 1.03$) and urban chic ($M = 5.69$, $SD = 1.08$) conditions as more attractive than the funnily weird ($M = 4.39$, $SD = 1.57$) and futuristic ($M = 5.03$, $SD = 1.33$) conditions. Knowing that there was no significant difference in attractiveness levels between sporty/comfy and urban chic

conditions ($p = 0.88$), however, the futuristic style was perceived as more attractive than the funnily weird one ($p < 0.01$). These results provide support for H1a.

Regarding popularity, the analysis also revealed a significant main effect of fashion style condition, $F(12, 884) = 42.93$, $p < 0.001$, $\eta^2 = 0.29$. Participants perceived the sporty/comfy ($M = 5.77$, $SD = 0.99$) and urban chic ($M = 6.00$, $SD = 0.98$) conditions as more popular than the funnily weird ($M = 4.12$, $SD = 1.47$) and futuristic ($M = 4.81$, $SD = 1.28$) ones. Consistent with attractiveness, there was no significant difference in perceived popularity between the sporty/comfy and urban chic conditions ($p = 0.23$), while the futuristic style was perceived as more popular compared to the funnily weird one ($p < 0.01$). Thus, H1b was also supported.

The MANOVA analysis also revealed a significant main effect of fashion style condition on perceived novelty, $F(12, 884) = 40.60$, $p < 0.001$, $\eta^2 = 0.27$. In this context, novelty was higher in the case of funnily weird ($M = 5.82$, $SD = 0.94$) and futuristic conditions ($M = 5.49$, $SD = 1.32$) compared to sporty/comfy ($M = 3.99$, $SD = 1.33$) and urban chic ($M = 4.47$, $SD = 1.21$) styles. There was no statistically significant difference in novelty levels between funnily weird and futuristic conditions ($p = 0.08$). However, a significant difference was observed between sporty/comfy and urban chic conditions ($p = 0.01$). These findings provide support for H1c.

Finally, the MANOVA demonstrated another significant main effect of fashion style condition on weirdness, $F(12, 884) = 161.19$, $p < 0.001$, $\eta^2 = 0.60$. As expected, participants perceived funnily weird ($M = 5.32$, $SD = 1.24$) and futuristic styles ($M = 4.18$, $SD = 1.45$) as weirder than the sporty/comfy ($M = 1.75$, $SD = 0.89$) and urban chic ($M = 2.11$, $SD = 1.16$) styles. While there was no statistically significant difference in perceived weirdness between the sporty/comfy and urban chic conditions regarding weirdness ($p = 0.06$), participants perceived the funnily weird style as weirder than the futuristic one ($p < 0.01$). Based on these findings, H1d is also supported. In summary, H1a, H1b, H1c, and H1d are supported. Web Appendix C illustrates means in all conditions.

The Mediating Role of Perceived Attractiveness, Popularity, Novelty, and Weirdness.

H2 was tested through Hayes' PROCESS Model No. 4 with 5,000 bias-corrected bootstraps (Hayes, 2017), with virtual fashion styles as the predictor, attractiveness, popularity, novelty, and weirdness as mediators, and attitude toward VFR as the dependent variable. The results (presented in Table 2) revealed that perceived attractiveness ($b = -0.19$, $SE = 0.04$, 95% bias-corrected bootstrap confidence interval (BCBCI)[-0.27, -0.11]) and popularity ($b = -0.10$, $SE = 0.03$, 95% BCBCI[-0.16, -0.04]) negatively mediate the path from fashion styles to attitude toward VFR. Specifically, fantasy fashion

styles compared to real-life fashion styles reduce perceived attractiveness and popularity, both of which have a direct positive impact on attitude toward VFR. However, transitioning from real-life fashion styles to fantasy styles increases perceived novelty, which, in turn, has a direct positive impact on attitude toward VFR. Hence, novelty positively mediates the effect of fashion style on attitude toward VFR ($b = 0.06$, $SE = 0.02$, 95% BCBCI[0.02, 0.11]). Finally, the results demonstrated that transitioning from real-life styles to fantasy ones increases perceived weirdness, which has a direct negative impact on positive attitude toward VFR. Therefore, perceived weirdness negatively mediates the path from fashion style to attitude toward VFR ($b = -0.18$, $SE = 0.04$, 95% BCBCI[-0.27, -0.10]). In summary, H2a, H2b, H2c, and H2d are supported.

It is worth mentioning that no significant direct effect between virtual fashion styles and attitude toward VFR was found when including the mediators ($b = 0.03$, $SE = 0.04$, $t = 0.73$, $p = .47$, 95% BCBCI[-0.05, 0.11]), thus indicating the tested paths are fully mediated by perceived attractiveness, popularity, novelty, and weirdness.

[Table 2]

H3 was tested through Hayes' PROCESS Model No. 4 with 5,000 bias-corrected bootstraps (Hayes, 2017), with virtual fashion styles as the predictor, attractiveness, popularity, novelty, and weirdness as mediators, respectively, and satisfaction with VFR as the dependent variable. The results indicated that fantasy fashion styles compared to real-life fashion styles reduce perceived attractiveness and popularity, both of which have a direct positive effect on satisfaction. Therefore, perceived attractiveness ($b = -0.23$, $SE = 0.05$, 95% BCBCI[-0.34, -0.14]) and popularity ($b = -0.14$, $SE = 0.05$, 95% BCBCI[-0.24, -0.06]) negatively mediate the path from fashion style to satisfaction, and H3a and H3b are supported. However, although perceived novelty and weirdness increased when transitioning from real-life to fantasy styles, the results did not indicate a significant direct effect of these factors on satisfaction. Therefore, perceived novelty ($b = 0.03$, $SE = 0.03$, 95% BCBCI[-0.03, 0.09]) and weirdness ($b = 0.04$, $SE = 0.06$, 95% BCBCI[-0.08, 0.16]) do not play a significant mediating role in the path from fashion style to satisfaction; thus, H3c and H3d are not supported.

It is worth mentioning that no significant direct effect between virtual fashion styles and satisfaction with VFR was found when including the mediators ($b = 0.01$, $SE = 0.06$, $t = -0.03$, $p = .98$, 95% BCBCI[-0.13, 0.13]), thus indicating the studied relationships are fully mediated by attractiveness and popularity.

The Moderating Role of Self-Congruence with Avatar Clothing.

H4 was tested through Hayes' PROCESS Model No. 7 with 5,000 bias-corrected bootstraps (Hayes, 2017). We considered fashion style conditions as the independent variable, perceived attractiveness, popularity, novelty, and weirdness as mediators, and self-congruence with avatar clothing as the moderator. Moreover, in the first round, we regarded attitude toward VFR as the dependent variable, while in the second round, we considered satisfaction with VFR as the dependent variable. The results revealed that self-congruence with avatar clothing moderates the indirect path (Fashion Style → Perceived Attractiveness → Attitude toward VFR), $B = 0.05$ (0.02), $CI[0.02, 0.08]$, as the moderated mediation's Confidence Interval (CI) range excluded zero, indicating significance. Conditional indirect effects showed a significant negative indirect effect at a low self-congruence level and a positive indirect effect at a high self-congruence level (Low: $B = -0.14$ (0.06), $CI[-0.27, -0.03]$; High: $B = 0.09$ (0.04), $CI[0.02, 0.16]$). Furthermore, the findings suggested that self-congruence moderates the indirect path (Fashion Style → Perceived Popularity → Attitude toward VFR), $B = 0.02$ (0.01), $CI[0.01, 0.04]$. At a low self-congruence level, a significant negative indirect effect was observed ($B = -0.09$ (0.03), $CI[-0.17, -0.03]$), which became insignificant at a high self-congruence level ($B = 0.01$ (0.01), $CI[-0.03, 0.02]$). Consequently, both H4a1 and H4a2 are supported.

Moreover, the findings demonstrated that self-congruence with avatar clothing does not moderate the indirect path, (Fashion Style → Perceived Novelty → Attitude toward VFR), $B = -0.01$ (0.01), $CI[-0.02, 0.01]$. However, it does moderate the indirect path (Fashion Style → Perceived Weirdness → Attitude toward VFR), $B = 0.02$ (0.01), $CI[0.01, 0.03]$. At a low self-congruence level, the negative indirect effect was significant ($B = -0.18$ (0.05), $CI[-0.29, -0.09]$), while it became a positive indirect effect at a high self-congruence level ($B = 0.10$ (0.03), $CI[-0.16, -0.05]$). Therefore, H4a3 is not supported, while H4a4 is supported.

When the outcome is satisfaction, the results indicate that self-congruence with avatar clothing moderates the indirect path (Fashion Style → Perceived Attractiveness → Satisfaction with VFR), $B = 0.06$ (0.02), $CI[0.02, 0.10]$. Conditional indirect effects reveal a significant negative indirect effect at a low self-congruence level, whereas a positive indirect effect is observed at a high self-congruence level (Low: $B = -0.18$ (0.07), $CI[-0.32, -0.04]$; High: $B = 0.11$ (0.04), $CI[0.02, 0.20]$).

Furthermore, the results show that self-congruence moderates the indirect path (Fashion Style → Perceived Popularity → Satisfaction with VFR), $B = 0.03$ (0.01), $CI[0.01, 0.06]$. At a low self-congruence level, a significant negative indirect effect was observed ($B = -0.14$ (0.05), $CI[-0.26, -0.05]$), which became insignificant at a high self-congruence level ($B = 0.01$ (0.02), $CI[-0.04, 0.04]$).

Based on these findings, both H4b1 and H4b2 are supported. Finally, the results demonstrate that self-congruence with avatar clothing does not moderate the indirect path (Fashion Style → Perceived Novelty → Satisfaction with VFR), $B = 0.01$ (0.01), $CI[-0.02, 0.01]$, nor does it moderate the indirect path (Fashion Style → Perceived Weirdness → Satisfaction with VFR), $B = 0.01$ (0.01), $CI[-0.02, 0.01]$. Therefore, neither H4b3 nor H4b4 is supported.

The Moderating Role of the Desire for Unique Products.

H5 was tested through Hayes' PROCESS Model No. 7 with 5,000 bias-corrected bootstraps (Hayes, 2017), using the same inputs as in the first moderated mediation analysis but considering the desire for unique products as the moderating variable. The results demonstrated that this factor moderates the indirect path (Fashion Style → Perceived Attractiveness → Attitude toward VFR), $B = 0.05$ (0.03), $CI[0.01, 0.11]$. Conditional indirect effects indicate a significantly stronger negative indirect effect when the desire for unique products is rated low ($B = -0.26$ (0.06), $CI[-0.39, -0.15]$), compared to when it is rated high ($B = -0.13$ (0.04), $CI[-0.22, -0.05]$). The results also indicated that the desire for unique products moderates the indirect path (Fashion Style → Perceived Popularity → Attitude toward VFR), $B = 0.02$ (0.01), $CI[0.01, 0.05]$. Here, too, there is a significantly stronger negative indirect effect when the desire for unique products is rated low ($B = -0.13$ (0.04), $CI[-0.22, -0.05]$), compared to when it is rated high ($B = -0.07$ (0.03), $CI[-0.13, -0.03]$).

Moreover, the analysis indicated that the desire for unique products moderates the path (Fashion Style → Perceived Novelty → Attitude toward VFR), $B = -0.02$ (0.01), $CI[-0.04, -0.01]$ in which, a significantly stronger positive indirect effect is observed when the desire for unique products is rated low ($B = 0.09$ (0.03), $CI[0.03, 0.16]$), compared to when it is rated high ($B = 0.03$ (0.01), $CI[0.01, 0.06]$). The analysis also showed that the desire for unique products moderates the path (Fashion Style → Perceived Weirdness → Attitude toward VFR), $B = 0.03$ (0.01), $CI[0.01, 0.06]$. Once again, there is a significantly stronger negative indirect effect when the desire for unique products is rated low ($B = -0.22$ (0.06), $CI[-0.33, -0.11]$), compared to when it is rated high ($B = -0.14$ (0.04), $CI[-0.23, -0.07]$). Based on these results, H5a1, H5a2, H5a3, and H5a4 are all supported.

When the outcome is satisfaction, the results indicate that the desire for unique products moderates the path (Fashion Style → Perceived Attractiveness → Satisfaction with VFR), $B = 0.06$ (0.03), $CI[0.01, 0.13]$. Conditional indirect effects show a significantly stronger negative indirect effect when the desire for unique products is rated low ($B = -0.32$ (0.08), $CI[-0.49, -0.18]$), compared to when it is rated high ($B = -0.16$ (0.06), $CI[-0.28, -0.06]$). Moreover, the analysis indicates that the desire for

unique products moderates the path (Fashion Style → Perceived Popularity → Satisfaction with VFR), $B = 0.03$ (0.02), $CI[0.01, 0.07]$. There is also a significantly stronger negative indirect effect when the desire for unique products is rated low ($B = -0.19$ (0.06), $CI[-0.32, -0.07]$), compared to when it is rated high ($B = -0.10$ (0.04), $CI[-0.19, -0.04]$). Therefore, both H5b1 and H5b2 are supported. Finally, the results demonstrate that the desire for unique products does not moderate the indirect path (Fashion Style → Perceived Novelty → Satisfaction with VFR), $B = -0.01$ (0.01), $CI[-0.04, 0.01]$, nor does it moderate the indirect path (Fashion Style → Perceived Weirdness → Satisfaction with VFR), $B = -0.01$ (0.01), $CI[-0.03, 0.02]$. Therefore, both H5b3 and H5b4 are not supported. Web Appendix D provides detailed information on the moderated mediation analysis.

5. General Discussion and Conclusion

The findings of this study reveal that the shift from “real-life” to “fantasy-oriented” avatar fashion styles results in a detrimental impact on perceived attractiveness and popularity. Simultaneously, it leads to an increase in perceived novelty and weirdness. These findings align with prior research that has proposed fashion styles as contributing factors to attractiveness, popularity, novelty (e.g., McLean and Wilson, 2019) and, at times, perceived weirdness (Lynge-Jorlén, 2020) (H1).

Moreover, our results demonstrate that the transition from popular or “marketable” fashion styles to fantasy ones negatively affects (1) attitude toward VFR by diminishing perceived attractiveness and popularity while increasing perceived weirdness, and (2) satisfaction with VFR by reducing perceived attractiveness and popularity. In this context, the concept of perceived novelty exclusively serves as a positive mediating factor between fashion style and one's attitude toward VFR, implying that novelty primarily motivates individuals inclined toward virtual fantasy fashion. Although prior research has not explored these relationships in the context of virtual attire, our empirical findings are consistent with established research in the field of fashion, which has demonstrated the positive influence of perceived attractiveness (Franke *et al.*, 2023), popularity (Yuan *et al.*, 2021), and novelty (Franke *et al.*, 2023) on attitude, satisfaction, and different desired behavioral responses. Moreover, our results align with the findings of Klebl *et al.* (2023), who observed that interactive individual images tend to be assessed as more unconventional and eccentric, resulting in negative perceptions and attitudes.

Regarding H3c and H3d, the results can be explained as follows. Concerning H3c, while perceived novelty is often linked to increased satisfaction, this effect may not be significant when customers are not actively seeking novelty, or when perceived novelty does not align with their expectations (Zeba and Ganguli, 2019). In our experiment, participants were tasked with dressing an avatar for a VR tour,

a novel experience for many, however, it is likely they were not inherently seeking novel attire. Regarding H3d, while perceived weirdness typically reduces satisfaction, in certain tourist experiences involving unconventional elements like dressing avatars or engaging with strangers in eccentric attire, individuals become more tolerant of oddity and weird elements (Li and Ryan, 2020), thus minimizing any negative impact on satisfaction levels (**H2-H3**).

Ultimately and intriguingly, the study's outcomes reveal that both self-congruence with avatar clothing and the desire for unique fashion products play pivotal moderating roles in various aspects of the aforementioned relationships. Specifically, self-congruence mitigates the adverse impact of fashion styles on attitude and satisfaction through perceived attractiveness, eliminates the same negative pathways through popularity, and elevates weirdness as a positive mediator in the relationship between fashion styles and attitude toward VFR. Our findings are consistent with the self-congruency theory, which emphasizes the significance of aligning an image, product, or destination with an individual's self-concept (Boksberger *et al.*, 2011; Sirgy *et al.*, 1997). Additionally, within the context of smart mirror utilization, Javornik *et al.* (2021) have similarly demonstrated that elevated levels of self-congruence reduce the gap between one's ideal and actual attractiveness, influencing product selection confidence and subsequent behavioral responses (**H4**).

Regarding the desire for unique products, this moderator amplifies the link between fashion styles and attitude toward VFR through novelty, mitigates the detrimental effects of fashion styles on attitude (via attractiveness, popularity, and weirdness), and alleviates the adverse consequences of fashion styles on satisfaction (via attractiveness and popularity). These findings are consistent with prior research that acknowledges individuals with heightened levels of need for uniqueness tend to opt for unconventional choices and exhibit a greater propensity for unconventional decision-making (Simonson and Nowlis, 2000) (**H5**).

5.1. Theoretical Implications

The current study significantly advances theoretical understanding within the field of tourism research, particularly in the realms of immersive technologies and virtual fashion. Firstly, this research stands as one of the pioneering attempts to explore the influence of virtual fashion styles within a VR tourist experience, with a specific focus on virtual experiences involving interaction with other tourists, such as a group VR tour in historical places or museums. This contribution is pivotal to the existing literature, responding to calls to investigate not only VR adoption but also how a VR customer journey can be improved by considering crucial touchpoint enhancements (Flavián *et al.*, 2019; Orús *et al.*,

2021). Specifically, our study explores the impact of avatar fashion styles on attitude and satisfaction within VFR. The four studied fashion styles differ in their influences on perceived attractiveness, popularity, novelty, and weirdness. A noticeable trend emerges, indicating that as tourists are exposed to more fantasy styles, there is a decrease in perceived attractiveness and popularity, coupled with an increase in perceptions of novelty and weirdness. These findings contribute to a better understanding of tourists' attitudes towards diverse fashion styles and their implications for the overall VR experience. Additionally, the study introduces the mediating role of declining attractiveness and popularity, along with the rising weirdness linked to different fashion styles.

Finally, our study identifies two critical factors: self-congruence with avatar clothing and the desire for unique products, which act as catalysts for change and extend existing theories into a new context. The findings highlight that varying degrees of these factors can either enhance, nullify, or moderate the significance of observed paths, emphasizing the necessity of considering such personality variables in theoretical frameworks. Our findings show that when weird fashion styles align with one's personality, there will be a higher tendency for these individuals to adopt such clothes and show a positive attitude towards them. Similarly, the results indicate that tourists' desire for uniqueness would also lead to a higher tendency to pick up less conventional fashion styles. The findings contribute to the previous literature (e.g., Chang *et al.*, 2019) by emphasizing the importance of considering personality traits at every step of the tourist journey.

5.2. Managerial Implications

While immersive technologies offer a plethora of virtual attire options, it is crucial to recognize that users spend only a brief time dressing their avatars before embarking on their journey. Therefore, offering a reasonable number of options is essential to prevent overwhelming customers with too many choices (Heitmann *et al.*, 2007). In this vein, our study highlights a general preference for fashion styles in VR tourism experiences that emulate real-world tourist attire, such as sporty/comfy or urban chic styles. Hence, we caution practitioners against substantial investments in unconventional and fantasy styles although an exception exists for individuals seeking uniqueness and enjoying experimentation with unconventional styles. This unique segment demonstrates a greater inclination towards fantasy fashion styles during VR journeys. VR tourism experience providers should evaluate the size of this segment and, if feasible, create tailored tours featuring fantasy fashion to cater to these customers. Conducting surveys among current or potential customers can assist in customizing experiences to meet their preferences. Promoting these tours by highlighting the avatar fashion style

in conjunction with the tourist destination can serve as a potent promotional stimulator. For instance, providers of VR tours in specific sights (historical city center or museums) can target this market segment and promote the tour by showcasing "weirdly funny" avatars moving in the sightseeing.

Lastly, our findings emphasize that a closer match between avatar clothing and an individual's self-concept has a positive effect, mitigating the negative impact of fantasy fashion styles. Therefore, if VR tour providers choose to incorporate such styles in their VFR, surveying customers during the design phase is advisable to ensure alignment between selected styles and customers' self-concept (See for example the scales used by: Kumar and Kaushik, 2022).

5.3. Limitations and Future Research

In this research, we examined the impact of four distinct fashion styles on attitude and satisfaction with VFR. Nonetheless, it is worth acknowledging that several avenues for future research exist. Firstly, exploring a broader spectrum of fashion styles, examining additional desirable outcomes, or replicating the model within diverse contexts presents promising research opportunities. In this vein, the preferences of fashion styles might differ depending on the type of virtual experience offered, such as attending a virtual concert versus taking a virtual tour of a historical place. This limitation highlights the importance of considering diverse fashion preferences based on specific tourism experiences.

Furthermore, while our study predominantly focuses on the influence of fashion styles in the context of VFR, there is merit in extending this inquiry to encompass subsequent phases of the VR tourist journey. This could be achieved by incorporating virtual tourism scenes. During this phase, not only do the attire choices serve as antecedents to the experience quality, but also the virtual fashion items of avatars representing other tourists play a pivotal role in shaping the sightseeing and interaction experiences among tourists. Consequently, it becomes imperative to investigate how one tourist's outfit may impact the satisfaction of fellow tourists, as companies seek to enhance the experience for one tourist without detrimentally affecting the experiences of others.

Lastly, recognizing the rich cultural dimensions of fashion, and since our study sample exclusively comprised US residents, we recommend the validation of our proposed model in different countries, or through cross-cultural studies aimed at comparing findings across diverse cultural contexts.

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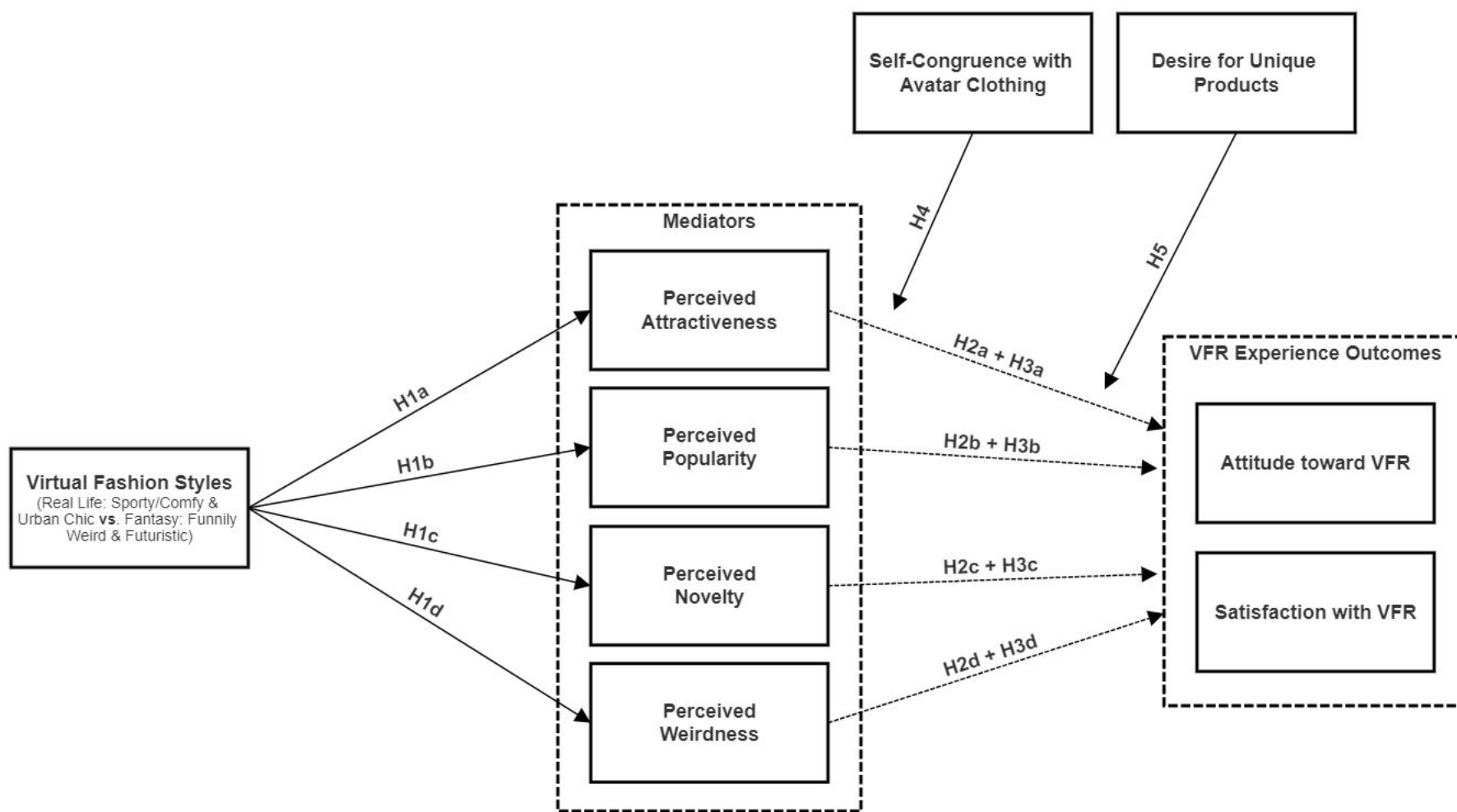


Figure 1. Research Model

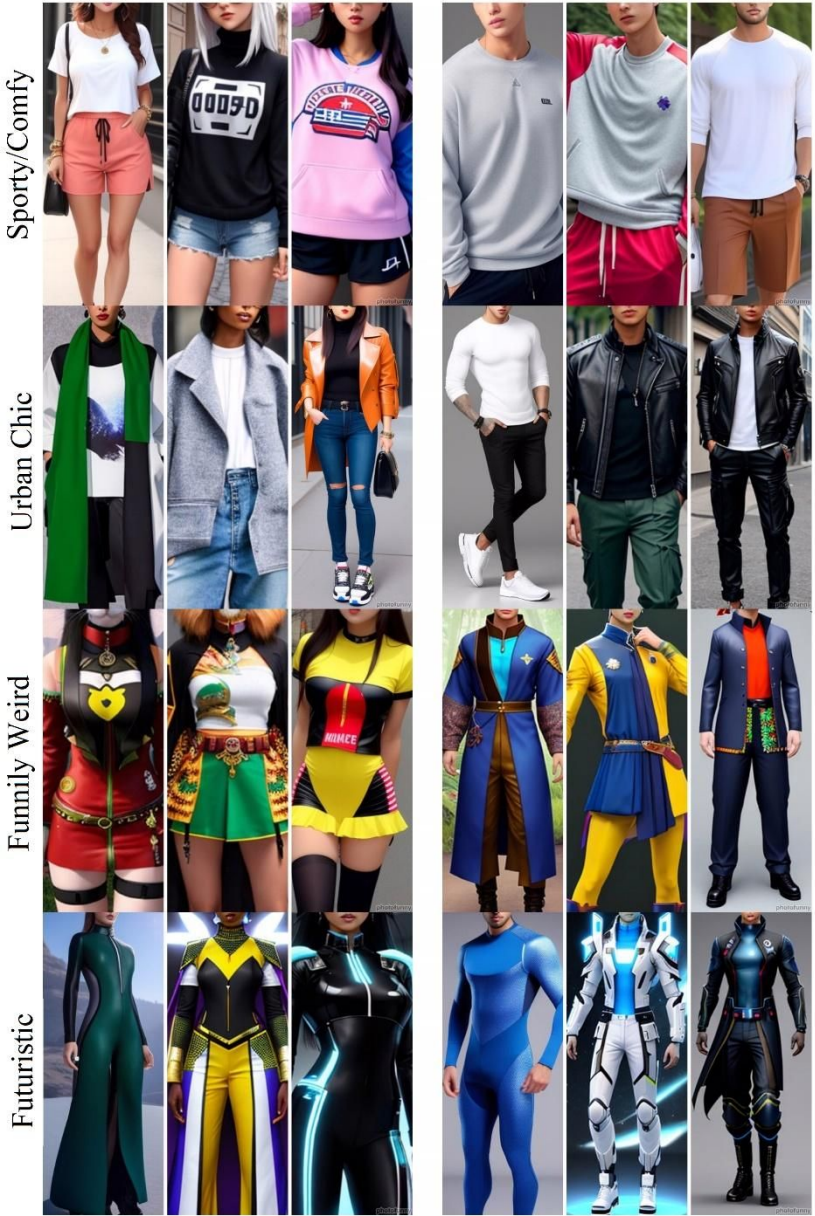


Figure 2. Examples of Fashion Styles

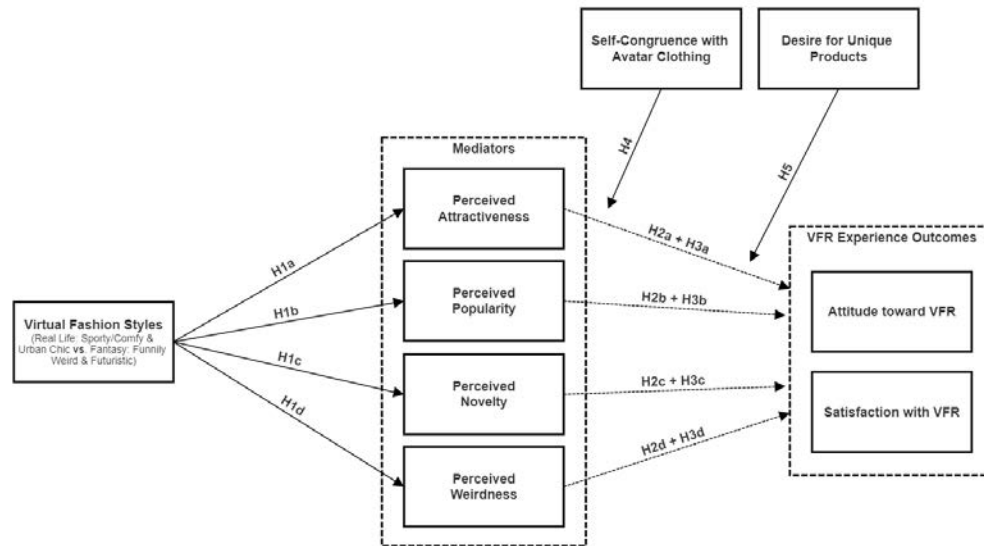


Figure 1. Research Model

602x336mm (57 x 57 DPI)

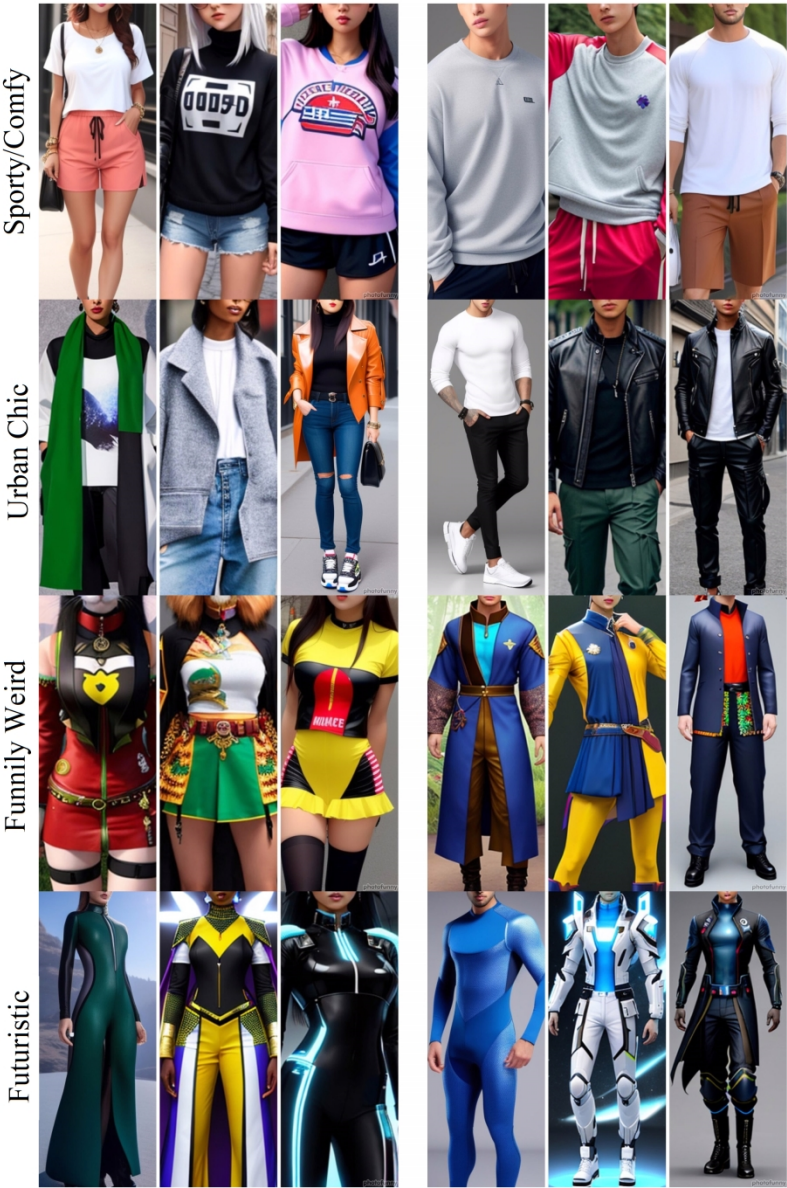


Figure 2. Examples of Fashion Styles
1012x1520mm (57 x 57 DPI)

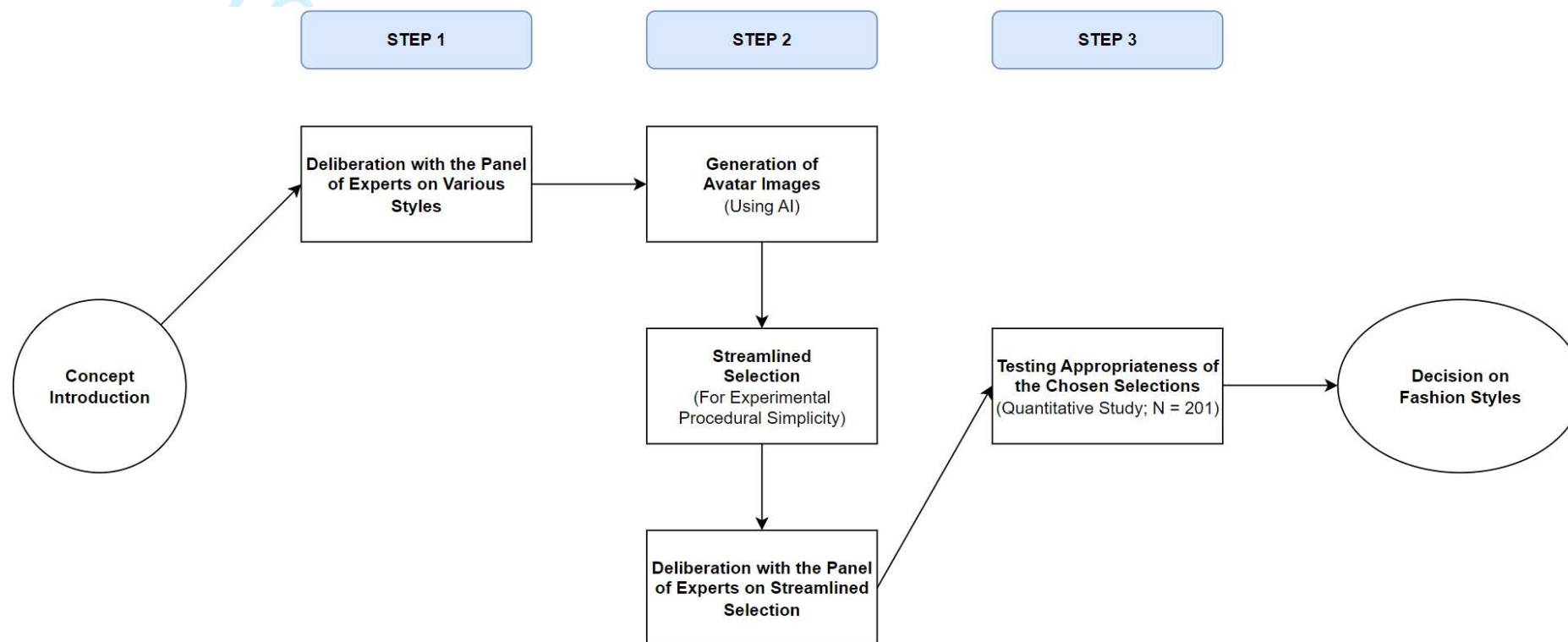
Table 1. Measures with Literature Support and Scale Evaluations

	Construct (Literature Support)	Factor Loading	Cronbach's α	AVE	Composite Reliability
1					
2	Perceived Attractiveness – Adapted from Cox and Cox (2002)		0.95	0.81	0.96
3	The displayed avatar clothes are:				
4	Bad – Good	0.92			
5	Unpleasant – Pleasant	0.93			
6	Not likable – Likable	0.92			
7	Unflattering – Flattering	0.83			
8	Unattractive – Attractive	0.93			
9	Not stylish – Stylish	0.88			
10					
11	Perceived Popularity – Adapted from Lam and Mukherjee (2005)		0.92	0.76	0.94
12	The displayed avatar clothes are:				
13	Socially unacceptable – Socially acceptable	0.83			
14	Unfashionable – Fashionable	0.87			
15	Providing an undesired impression – Providing a desired impression	0.86			
16	Disapproved by others – Approved by others	0.92			
17	Unpopular – Popular	0.89			
18					
19	Perceived Novelty – Adapted from Cox and Cox (2002)		0.90	0.77	0.93
20	The displayed avatar clothes are:				
21	Unoriginal – Original	0.74			
22	Common – Uncommon	0.91			
23	Familiar – Novel	0.92			
24	Typical – Atypical	0.92			
25					
26	Perceived Weirdness – Adapted from Wood <i>et al.</i> (2007)		0.97	0.87	0.98
27	The displayed avatar clothes are:				
28	Weird	0.96			
29	Strange	0.96			
30	Odd	0.96			
31	Abnormal	0.96			
32	Normal (R)	0.86			
33	Unusual	0.87			
34					
35	Attitude toward VFR – Adapted from De Pelsmacker <i>et al.</i> (2007)		0.93	0.79	0.95
36	While viewing the displayed avatar clothes:				
37	I had a positive impression	0.93			
38	I found it really something for me	0.89			
39	I found it interesting	0.83			
40	I found it credible	0.86			
41	I found it attractive	0.93			
42					
43	Satisfaction with VFR – Adapted from Hui <i>et al.</i> (2004)		0.95	0.92	0.97
44	Encountering such clothes in the Virtual Fitting Room:				
45	Made me satisfied with the beginning of this VR Tourist Experience	0.97			
46	Made me feel pleased about the beginning of VR Tourist Experience	0.97			
47	Met my expectations	0.93			
48					
49	Self-Congruence with Avatar Clothing – Adapted from Sirgy <i>et al.</i> (1997)		0.96	0.92	0.97
50	In general, the clothes in the Virtual Fitting Room are:				
51	Consistent with how I see myself during a touristic tour	0.96			
52	A mirror image of me during a touristic tour	0.97			
53	Close to my own personality	0.95			
54					
55	Desire for Unique Products – Adapted from Lynn and Harris (1997)		0.91	0.61	0.93
56	Rate the following statement:				
57	I am very attracted to rare objects	0.77			
58	I tend to be a fashion leader rather than a fashion follower	0.75			
59	I am more likely to buy a product if it is scare	0.83			
60	I would prefer to have things custom-made than to have them ready-made	0.76			
	I enjoy having things that others do not	0.80			
	I rarely pass up the opportunity to order custom features on the products I buy	0.81			
	I like to try new goods and services before others do	0.76			
	I enjoy shopping at stores that carry merchandise which is different and unusual	0.73			

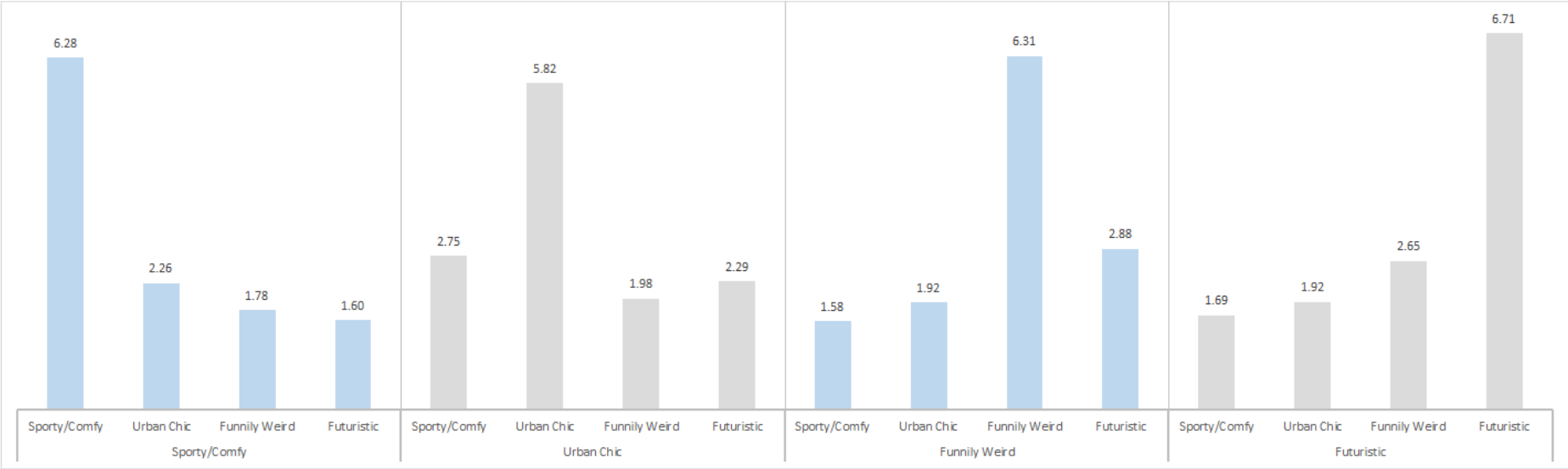
Table 2. Results for Direct and Indirect Effects

Path	<i>b</i> (<i>SE</i>)	LLCI	ULCI	Hypotheses Test
Direct Effects				
Fashion Style → Perceived Attractiveness	-0.32 (0.07)	-0.45	-0.19	---
Fashion Style → Perceived Popularity	-0.48 (0.07)	-0.60	-0.35	---
Fashion Style → Perceived Novelty	0.58 (0.06)	0.46	0.70	---
Fashion Style → Perceived Weirdness	1.04 (0.07)	0.90	1.19	---
Indirect Effects				
Fashion Style → Perceived Attractiveness → Attitude toward VFR	-0.19 (0.04)	-0.27	-0.11	H2a: S
Fashion Style → Perceived Popularity → Attitude toward VFR	-0.10 (0.03)	-0.16	-0.04	H2b: S
Fashion Style → Perceived Novelty → Attitude toward VFR	0.06 (0.02)	0.02	0.11	H2c: S
Fashion Style → Perceived Weirdness → Attitude toward VFR	-0.18 (0.04)	-0.27	-0.10	H2d: S
Fashion Style → Perceived Attractiveness → Satisfaction with VFR	-0.23 (0.05)	-0.34	-0.14	H3a: S
Fashion Style → Perceived Popularity → Satisfaction with VFR	-0.14 (0.05)	-0.24	-0.06	H3b: S
Fashion Style → Perceived Novelty → Satisfaction with VFR	0.03 (0.03)	-0.03	0.09	H3c: NS
Fashion Style → Perceived Weirdness → Satisfaction with VFR	0.04 (0.06)	-0.08	0.16	H3d: NS

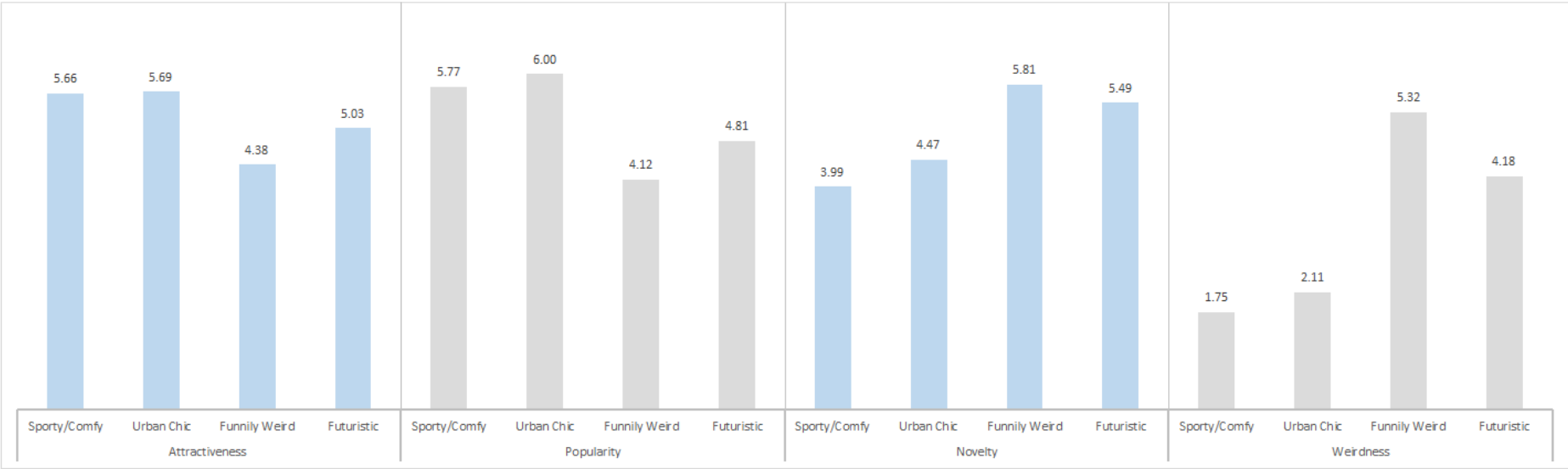
Notes: *b*, Coefficient; *SE*, Standard Error; LLCI, 95% Lower Level Confidence Interval; ULCI, 95 % Upper Level Confidence Interval; S, Hypothesis Supported; NS, Hypothesis Not Supported.



Web Appendix A. Avatar Fashion Styles Selection Process



Web Appendix B. Pilot Study Mean Ratings



Web Appendix C. Means of Perceived Attractiveness, Popularity, Novelty, and Weirdness in Each Fashion Style Condition

Path Examined and Index of Moderated Mediation	Conditional Indirect Effects				Result
	Moderator Rating	b (SE)	LLCI	ULCI	
Path 1:					
Fashion Style → Perceived Attractiveness → Attitude toward VFR					H4a1: S
Moderator: Self-Congruence with Avatar Clothing					(-) → (+)
Index of Moderated Mediation: B= 0.05 (0.02), CI [0.02, 0.08].					
	1.33	-0.14 (0.06)	-0.27	-0.03	
	4.00	-0.01 (0.03)	-0.07	0.04	
	6.00	0.09 (0.04)	0.02	0.16	
Path 2:					
Fashion Style → Perceived Popularity → Attitude toward VFR					H4a2: S
Moderator: Self-Congruence with Avatar Clothing					(-) → (N)
Index of Moderated Mediation: B= 0.02 (0.01), CI [0.01, 0.04].					
	1.33	-0.09 (0.03)	-0.17	-0.04	
	4.00	-0.04 (0.02)	-0.07	-0.02	
	6.00	0.01 (0.01)	-0.03	0.02	
Path 3:					
Fashion Style → Perceived Novelty → Attitude toward VFR					H4a3: NS
Moderator: Self-Congruence with Avatar Clothing					
Index of Moderated Mediation: B= -0.01 (0.01), CI [-0.02, 0.01].					
	1.33	-0.08 (0.03)	0.02	0.15	
	4.00	-0.06 (0.02)	0.02	0.10	
	6.00	0.04 (0.02)	0.01	0.08	
Path 4:					
Fashion Style → Perceived Weirdness → Attitude toward VFR					H4a4: S
Moderator: Self-Congruence with Avatar Clothing					(-) → (+)
Index of Moderated Mediation: B= 0.02 (0.01), CI [0.01, 0.03].					
	1.33	-0.18 (0.05)	-0.29	-0.09	
	4.00	-0.14 (0.03)	-0.21	-0.07	
	6.00	0.10 (0.03)	-0.16	-0.05	
Path 5:					
Fashion Style → Perceived Attractiveness → Satisfaction with VFR					H4b1: S
Moderator: Self-Congruence with Avatar Clothing					(-) → (+)
Index of Moderated Mediation: B= 0.06 (0.02), CI [0.02, 0.10].					
	1.33	-0.18 (0.07)	-0.32	-0.04	
	4.00	-0.01 (0.04)	-0.08	0.06	
	6.00	0.11 (0.04)	0.02	0.20	

Path 6:

Fashion Style → Perceived Popularity → Satisfaction with VFR

Moderator: Self-Congruence with Avatar Clothing

Index of Moderated Mediation: $B = 0.03$ (0.01), CI [0.01, 0.06].H4b2: S
(-) → (N)

1.33	-0.14 (0.05)	-0.26	-0.05
4.00	-0.06 (0.02)	-0.11	-0.02
6.00	0.01 (0.02)	-0.04	0.04

Path 7:

Fashion Style → Perceived Novelty → Satisfaction with VFR

Moderator: Self-Congruence with Avatar Clothing

Index of Moderated Mediation: $B = 0.01$ (0.01), CI [-0.02, 0.01].

H4b3: NS

1.33	0.04 (0.04)	-0.04	0.12
4.00	0.03 (0.03)	-0.03	0.09
6.00	0.02 (0.02)	-0.02	0.07

Path 8:

Fashion Style → Perceived Weirdness → Satisfaction with VFR

Moderator: Self-Congruence with Avatar Clothing

Index of Moderated Mediation: $B = 0.01$ (0.01), CI [-0.02, 0.01].

H4b4: NS

1.33	0.04 (0.06)	-0.09	-0.16
4.00	0.03 (0.05)	-0.06	0.12
6.00	0.02 (0.04)	-0.04	0.10

Path 9:

Fashion Style → Perceived Attractiveness → Attitude toward VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = 0.05$ (0.03), CI [0.01, 0.11].H5a1: S
(-) → (Less -)

2.63	-0.26 (0.06)	-0.39	-0.15
3.94	-0.20 (0.04)	-0.28	-0.12
5.21	-0.13 (0.04)	-0.22	-0.05

Path 10:

Fashion Style → Perceived Popularity → Attitude toward VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = 0.02$ (0.01), CI [0.01, 0.05].H5a2: S
(-) → (Less -)

2.63	-0.13 (0.04)	-0.22	-0.05
3.94	-0.10 (0.03)	-0.16	-0.04
5.21	-0.07 (0.03)	-0.13	-0.03

Path 11:

Fashion Style → Perceived Novelty → Attitude toward VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = -0.02$ (0.01), CI [-0.04, -0.01].H5a3: S
(+) → (Less +)

2.63	0.09 (0.03)	0.03	0.16
3.94	0.06 (0.02)	0.02	0.10

Path 12:

Fashion Style → Perceived Weirdness → Attitude toward VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = 0.03 (0.01)$, CI $[0.01, 0.06]$.

H5a4: S
(-) → (Less -)

2.63	-0.22 (0.06)	-0.33	-0.11
3.94	-0.18 (0.04)	-0.27	-0.10
5.21	-0.14 (0.04)	-0.23	-0.07

Path 13:

Fashion Style → Perceived Attractiveness → Satisfaction with VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = 0.06 (0.03)$, CI $[0.01, 0.13]$.

H5b1: S
(-) → (Less -)

2.63	-0.32 (0.08)	-0.49	-0.18
3.94	-0.24 (0.05)	-0.35	-0.15
5.21	-0.16 (0.06)	-0.28	-0.06

Path 14:

Fashion Style → Perceived Popularity → Satisfaction with VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = 0.03 (0.02)$, CI $[0.01, 0.07]$.

H5b2: S
(-) → (Less -)

2.63	-0.19 (0.06)	-0.32	-0.07
3.94	-0.15 (0.05)	-0.24	-0.06
5.21	-0.10 (0.04)	-0.19	-0.04

Path 15:

Fashion Style → Perceived Novelty → Satisfaction with VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = -0.01 (0.01)$, CI $[-0.04, 0.01]$.

H5b3: NS

2.63	0.04 (0.04)	-0.05	0.13
3.94	0.03 (0.03)	-0.03	0.09
5.21	0.01 (0.02)	-0.02	0.05

Path 16:

Fashion Style → Perceived Weirdness → Satisfaction with VFR

Moderator: The Desire for Unique Products

Index of Moderated Mediation: $B = -0.01 (0.01)$, CI $[-0.03, 0.02]$.

H5b4: NS

2.63	0.04 (0.07)	-0.11	0.19
3.94	0.04 (0.06)	-0.09	0.16
5.21	0.03 (0.05)	-0.07	0.13

Notes: N= 326. *b*, Coefficient; *SE*, Standard Error; LLCI, 95% Lower Level Confidence Interval; ULCI, 95 % Upper Level Confidence Interval; S, Hypothesis Supported; NS, Hypothesis Not Supported. If the range of confidence interval (CI) does not encompass zero, the Moderated Mediation Effect is statistically significant. In the Result Column: S = Supported, NS = Not Supported, and the labels indicate how the moderator influenced the relationship (Example: The first result indicates (-) → (+), this means that the moderator altered the relationship from negative to positive).