Rising like a Phoenix: Emerging from the
Pandemic and Reshaping Human Endeavors
with Digital Technologies ICIS 2023

Digital and Mobile Commerce

Dec 11th, 12:00 AM

# I Look Great! Beautified Self-Avatars' Effects on Willingness-To-Pay in Metaverses

Rosa Holtzwart
*University of Mannheim*, holtzwart@uni-mannheim.de

Anna-Maria Seeger
*University of Mannheim*, seeger@uni-mannheim.de

Hannah Kemper
*Boston Consulting Group*, hlkemper89@gmail.com

Armin Heinzl
*University of Mannheim*, heinzl@uni-mannheim.de

Follow this and additional works at: https://aisel.aisnet.org/icis2023

# I Look Great! Beautified Self-Avatars' Effects on Willingness-To-Pay in Metaverses

*Short Paper*

**Rosa Holtzwart**
University of Mannheim
Mannheim, Germany
holtzwart@uni-mannheim.de

**Anna-Maria Seeger**
University of Mannheim
Mannheim, Germany
seeger@uni-mannheim.de

**Hannah Kemper**
Boston Consulting Group
Frankfurt, Germany
hlkemper89@gmail.com

**Armin Heinzl**
University of Mannheim
Mannheim, Germany
heinzl@uni-mannheim.de

## Abstract

*This study represents ongoing research to investigate the impact of self-avatar beautification on consumers' willingness to pay for products virtually tried on with a beautified avatar. Avatars are the primary means of representing users in the rapidly growing market for commercial metaverse applications, such as apparel and accessories try-on. Based on self-congruity theory and appraisal theory, we argue that beautified self-avatars are congruent with users' ideal selves and elicit identification and positive emotions, resulting in increased willingness to pay. We present preliminary findings that support the notion that beautified avatars promote the ideal self and result in greater willingness to pay than realistic avatars. With these findings we contribute to research on avatar design and commerce in metaverses, by challenging the recognised notion that self-avatars should be as realistic as possible and establishing avatar beautification as a novel design objective in metaverse marketing.*

**Keywords:** self-avatars, self-congruity theory, appraisal theory, metaverses, e-commerce

## Introduction

In metaverses, users need self-avatars to interact with their virtual surroundings (Dwivedi et al. 2022). Metaverses are immersive three-dimensional virtual environments and self-avatars are representations of their physical self in those digital realms (Davis et al. 2009). Recent technological advances in extended reality technology, including virtual reality and related technologies, hold special significance for e-commerce (Dwivedi et al. 2022), which has been steadily growing over the years and is expected to reach 7.4 trillion dollars by 2025 (Chevalier 2022). Avatars have been widely studied in the context of gaming, where they allow users to form a digital identity (Vasalou and Joinson 2009). However, the use of self-avatars in commercial applications of metaverse try-on presents unique challenges. Unlike in gaming, where avatars are used purely for leisure, self-avatars in commercial settings serve as a bridge between the digital and physical worlds, as they are used to make decisions about purchasing products that will be worn in real life or as digital assets on their virtually accurate avatars (Suh et al. 2011; Dwivedi et al. 2022). While decisions based on self-avatars in gaming stay in the digital space without immediate implications for users' physical bodies, the self-avatar in commercial metaverse applications is bound in physical reality (Pujades et al. 2019). The creation of accurate self-avatars is often a complex and time-consuming task, and users may struggle with the process (Pujades et al. 2019). Thus, the creation of avatars *for* users is a focal problem in task-focused metaverse contexts (Pujades et al. 2019).

So far, the overall objective in (self-) avatar design, across various application domains, has been to increase realism of human features (e.g., Suh et al. 2011; Latoschik et al. 2017; Waltemate et al. 2018; Seymour et al. 2021). However, recent technological developments have expanded the possibilities for self-avatar design: Where once pixels were to be counted, we can now observe beauty spots and skin texture (Seymour et al. 2021). This offers new paths to explore the use of self-avatars in commercial metaverse applications. In this short paper, we seek to focus on the effect of beautified self-avatars in commercial metaverse applications. Beautified self-avatars refer to digital representations of a users' human self that are optimised to align with overarching beauty standards (Holtzwart et al. 2022).

Past studies have demonstrated the value of realistic self-avatars for users and retailers by increasing confidence in fit and heightened purchase intentions (Merle et al. 2012; Kim and Forsythe 2008). However, the effects of beautified self-avatars in commercial metaverse applications remain largely unknown. Users tend to overestimate their own attractiveness (Langlois et al. 2000). Being presented with the new photorealism of rendering might cause them to be rebuffed by the accuracy in which their self-perceived blemishes and flaws are displayed, which could cause body dissatisfaction or low self-esteem (Langlois et al. 2000). These emotions are negatively related to purchase intentions (Kim and Damhorst 2010). Beautified self-avatars are likely to mitigate these adverse outcomes. Drawing from research in a healthcare context, we know that beautified self-avatars reduce the discrepancy between actual and ideal features (Kim and Sundar 2012). Similarly, we argue that beautified self-avatars in e-commerce have a positive effect on purchase decisions by stimulating positive emotions and congruity between the avatars and users' ideal selves.

We mainly draw on self-congruity theory (Sirgy et al. 1982) and appraisal theory (Folkman and Lazarus 1985) to explain how beautification of avatars can affect purchasing in commercial metaverse applications. The theories are particularly suitable to explain how users form initial emotional responses and cognitive connections with their avatars and have hence been used by past research in Information Systems (Kim and Kwon 2010; Suh et al. 2011). Appraisal theory explains how we form initial emotional responses to entities that we evaluate against our goals and ideals, and how congruity herein leads to positive emotions (Lazarus 1991). Self-congruity theory explains that a match between a user's self-concept and a product-concept leads to purchasing and emotional attachment (Sirgy et al. 1985; Suh et al. 2011). A user's self-concept consists of the ideal self – how one would like to see oneself – and the actual self – how one actually sees oneself (Sirgy 1985). Yet, previous research on the effects of maximising realism in avatar design (e.g., Suh et al. 2011; Latoschik et al.2017) has mostly investigated self-avatars in relation to self-congruity as a singular construct (Merle et al. 2012; Suh et al. 2011) but disregarded the distinction between ideal and actual congruity (Sirgy 1985). Ideal self-congruity captures the fit between a user's ideal self and a product, while actual self-congruity denotes the congruity between the actual self and the product (Sirgy 1985). Previous research on the effects of maximising realism in avatar design (e.g., Suh et al. 2011; Latoschik et al.2017; Seymour et al. 2021) has significantly contributed to investigating the relationship between the actual self and the avatar. However, research that investigates avatars in line with their ideal self is rare. Yet, research on the effect of congruity with idealised others (e.g., celebrities) and avatar conceptualised as an idealisation of the user persona into metaverses, has shown that the ideal self plays a larger role in fostering brand loyalty and purchase intentions than the actual self (Choi and Rifon 2012; Kim and Bae 2022). Hence, the alignment of avatars with users' ideal selves holds particular significance in understanding purchasing and emotions in commercial metaverses

However, it remains unclear if beautified avatars can stimulate ideal self-congruity and if this may influence purchase decisions in the metaverse. Therefore, we formulate the following research questions:

RQ1: *Do beautified self-avatars increase users' willingness-to-pay?*

RQ2: *How can the effect of self-avatar beautification on willingness-to-pay be explained?*

To address these questions, we develop a research model by amalgamating literature on beautification, self-congruity and appraisal theory, and avatar use. We further report the findings of a pilot study. Our preliminary findings indicate that the use of beautified avatars might increase users' willingness-to-pay as well as positive sentiment. Moreover, we find that beautified avatars significantly increase ideal self-congruity. We discuss implications of our preliminary findings and illustrate future directions for research.

# Theoretical Background

## *Avatars*

Avatars are digital representations of humans (Davis et al. 2009; Miao 2022); distinct from related concepts, such as conversational agents or bots, which do not necessarily have a visual representation (Seeger et al. 2021). Avatars can be classified based on their perspective, that is, they can represent the virtual self or virtual others (Miao et al. 2022). Virtual others include agents or avatars as salespeople that users can interact with in e-commerce and customer service (Miao et al. 2022). Self-avatars are digital representations of a user's self (Davis et al. 2009). They rank on a spectrum of realism, from fantastical creatures that do not resemble the human form to self-avatars, physically accurate representations of the user (Latoschik et al. 2017). In this short paper, we focus on physically accurate self-avatars, which we refer to as *avatars*.

Many studies on avatar design and use have been focusing on gaming and leisure contexts (e.g., Vasalou and Joinson 2009; Latoschik et. al 2017). However, the application domain for avatars has outgrown that context. Now avatars are also being used in task-focused areas such as learning, telepresence work, or e-commerce (Suh et al. 2011). In these contexts, avatars are a tool for the user to fulfil a specific task (e.g., lose weight, assess fit) and not primarily to bring enjoyment (Pujades et al. 2019). As possible use cases for the metaverse are growing, the relevance of avatars is also growing (Dwivedi et al. 2022).

## *Beautification*

The term *beauty* refers to a dominant physical characteristic of human appearance (Rhodes 2006). Humans assess it implicitly because our appraisal of it is driven by an inherent tendency towards beauty we are born with, rather than explicit socially learned processes (Langlois et al. 2000). Several studies have identified common beauty features independent of the individual's background based on an evolutionary perspective on beauty (e.g., Langlois et al. 2000; Rhodes 2006), referring to the notion that beauty is rooted in an assessment of mate quality to ensure reproductive success (Rhodes 2006).

With technology we can enhance beauty digitally, without relying on make-up or plastic surgery (Leyvand et al. 2006). Face *beautification* describes the subtle enhancement of looks while the face remains recognisable (Leyvand et al. 2006). Virtual beautification is frequently employed on social media; users enhance their appearance by retouching or beautifying images of themselves (Kleemans et al. 2018). Users also frequently beautify their avatars if they have the time to create avatars for themselves for leisure (Vasalou and Joinson 2009). Previous studies on avatar beautification focused on gaming avatars but did not systematically categorise what avatar beautification entails (e.g., Vasalou et al. 2008; Kim and Sundar 2012).

To create beautified avatars for users based on evolutionary notions of beauty, beautification including face skin homogeneity, face symmetry, and appealing face shape is applied (Holtzwart et al. 2022); Figure 2 illustrates avatar beautification. In sum, previous research demonstrates that avatar beautification is a relevant topic in commercial metaverses and that universal measures can be taken to beautify avatars.

## *Self-Congruity Theory*

Self-congruity theory (Sirgy 198) suggests that individuals are more likely to choose products or brands that are congruent with their self-concept. A user's self-concept consists of the ideal self – how one would like to see oneself – and the actual self – how one actually sees oneself (Sirgy 1985).

Today, self-congruity theory not only helps to explain the relationship between individuals and products (Sirgy 1985) but also illuminates the association between individuals and other entities such as avatars (Suh et al. 2011; Merle et al. 2012; Kim and Sundar 2012). Applied to avatars, self-congruity theory suggests that users prefer avatars that are congruent with their self-concept. When individuals perceive that their avatar is congruent with their self-concept, they are more likely to form positive attitudes towards it and to feel a sense of identification with it (Suh et al. 2011; Waltemate et al.2019). This can lead to increased immersion in the digital environment and a greater sense of being embodied by the avatar (Latoschik et al. 2017).

Research investigating the effect and relevance of the two self-concepts on idealised others (e.g., celebrities) reported that especially ideal self-congruity is a determinant of purchasing (Choi and Rifon 2012). Furthermore, a conceptualisation and extension of the ideal self as an avatar persona was found to have a

stronger impact on brand attachment in metaverses than the actual self (Kim and Bae 2022). Therefore, the congruity of avatars with users' ideal selves seems to be especially relevant in understanding purchasing and emotional engagement in commercial metaverses.

### *Emotional Responses to Avatars*

Appraisal theory proposes that an external stimulus triggers an affective evaluation process that ultimately results in an emotional response (Folkman and Lazarus 1985; Lazarus 1991). During primary appraisal, a relevant stimulus is assessed as negative or positive with respect to an individual's goals (Folkman and Lazarus 1985). The evaluation of a stimulus as relevant and goal congruent (i.e., consistent with a person's desires and wishes) results in positive emotional categories such as happiness or enjoyment (Lazarus 1991). In contrast, the primary appraisal of a stimulus as relevant and goal incongruent (i.e., inconsistent with a person's desires and wishes) results in negative emotions such as anger or sadness (Lazarus 1991).
Extant research on avatars reveals that these virtual representations elicit emotional responses from users. For example, attractive avatars stimulate pleasure and positive emotions toward the avatar (Westerman et al. 2015). Similarly, human-realistic avatars have resulted in positive user sentiments (Waltemate et al. 2018). In sum, avatars are likely to be a relevant stimulus that elicits an emotional response from users.

### *Purchasing and Willingness-to-Pay in the Metaverse: Virtual Try-On*

Metaverses are predicted to be a key technology for the fashion industry (Dwivedi et al. 2022). Making purchases based on 2D images of apparel is limited as it does not allow to assess style and fit towards oneself (Liu et al. 2020). Employing virtual-try-on as a solution to interact with the products virtually (Merle et al. 2012), is expected to lower returns and associated costs (Hwangbo et al. 2020). In the present study, we are interested in investigating how beautification of avatars in a virtual try-on context affects users' purchasing. More precisely, we are interested to reveal if avatar design affects users' willingness-to-pay in the metaverse, defined as the maximum amount a consumer would spend to obtain a product (Setterstorm and Pearson 2019). E-commerce studies have established that willingness-to-pay is crucial to understand online purchase decisions (Hinz et al. 2011; Yuan and Dennis 2019). Especially for metaverses and, willingness-to-pay was found to be a cognitive antecedent of purchasing (Setterstorm and Pearson 2019).

## Research Model and Hypotheses

Based on our review of the related literature, we argue that two routes explain the effect of avatar beautification on purchase decisions: a cognitive (self-congruity) route and an emotional route (sentiment). Figure 1 depicts our research model. In the following, we develop our hypotheses.
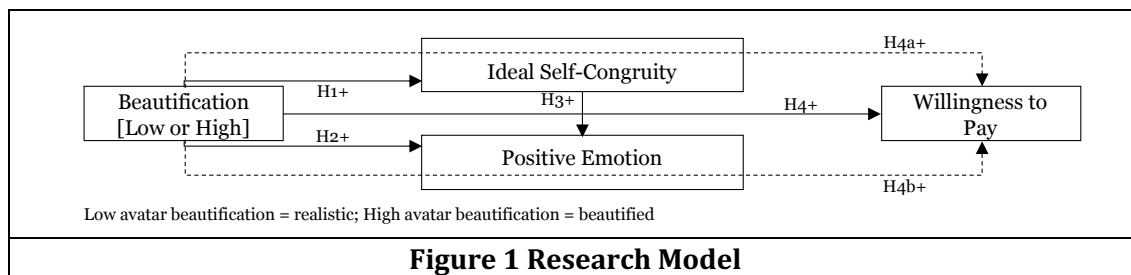


**Figure 1 Research Model**

Based on self-congruity theory, we postulate that users' implicit comparison with a beautified avatar of themselves activates the ideal self, as demonstrated in past research on augmented-reality representations (Kim and Sundar 2012). This also applies to face avatars, as users recognise them as a virtual aspect of their self-concept (Kim and Bae 2022). By satisfying the user's self-esteem motivation to self-improve, the avatar evokes congruity with the ideal self (Sirgy 1985). Furthermore, we propose that universal beautification mechanisms based on the evolutionary notions including skin homogeneity, face symmetry, and balanced face ratios can address users' unique insecurities without having to consider individual differences. Research has revealed that virtual beautification techniques that align with these universal beauty standards can enhance users' perceptions of attractiveness (e.g., Rhodes 2006; Leyvand et al. 2006). Thus, we argue that beautified avatars that adhere to these standards are closer to users' ideal self-concept. We

hypothesise:
*H1: Beautified self-avatars evoke higher ideal self-congruity than realistic self-avatars*

By linking self-congruity theory with appraisal theory, we infer that relevant stimuli that are congruent with a person's ideals, desires and wishes cause positive emotions (Lazarus 1991). Based on that theoretical perspective, we argue that when a user assesses their beautified avatar, a positive emotion is triggered because the beautified avatar reflects a desired state of the user. Furthermore, beauty and attractiveness safeguard people from negative emotions, while an absence of beauty causes strong negative emotions (Griffin and Langlois 2006). More precisely, we argue that a beautified avatar will cause more positive emotion than a realistic avatar. Therefore, we hypothesise:
*H2: Beautified self-avatars evoke higher positive emotion than realistic self-avatars*

Ideal self-congruity reflects how one would like to see themselves (Sirgy 1985). In the light of appraisal theory, this means that ideal self-congruity represents a stimulus that is congruent with a person's goals and desires, which results in positive emotional responses (Lazarus 1991). Therefore, we hypothesise:
*H3: Ideal self-congruity is positively related to positive emotion.*

Extant studies on realistic avatars report that higher congruity with avatars lead to increased purchase intention or product attachment (Suh et al. 2011; Merle et al. 2012). We argue that beautified avatars increase users' willingness-to-pay for a product that they assess with their avatar. More precisely, we argue that this effect is explained by two mediating variables, ideal self-congruity and positive emotion. We contend that beautified avatars make the user feel good about themselves, a feeling that extends to the product they are trying on. Past research found that individuals who perceive a brand or product as congruent with their ideal self are willing to pay a higher price (Tan et al. 2019). Positive emotional responses caused by beautified avatars increase users' willingness-to-pay. Research on positive emotions in marketing has established that users who feel happy and delighted perceive products of higher value (Oliver 2014) ultimately increasing their willingness-to-pay (Homburg et al. 2005). We argue that experiencing positive emotions during procuct assessment with a beautified avatar will make users evaluate themselves and the product more attractive. Thus, they are willing to pay more for the product. Based on these arguments, we hypothesise:
*H4: Beautified self-avatars evoke higher willingness-to-pay than realistic self-avatars.*
*H4a: Ideal self-congruity mediates the positive effect of beautification on willingness-to-pay.*
*H4b: Positive emotion mediates the positive effect of beautification on willingness-to-pay.*

## Study Design

We plan to conduct an online experiment to test our research model. To probe the developed research model, we conducted a pilot experiment identical to the full experiment. We used a between-subjects design and manipulated the self-avatar design (0: realistic, 1: beautified).

### Participants and Procedure

For the pilot study, we recruited students from a German university in person as well as via online research forums. The final pilot sample includes 62 participants (36 women, age: M=34.6, SD=16.1). The experiment included two phases based on Suh et al. (2011). In phase one, participants took five images of their head from different angles with a detailed guide on how to take the images. Subsequently, avatars were created in a semi-automated process (see manipulation of avatar design). In phase two of the experiment, each participant was told that they should imagine that they want to buy a pair of blue-light glasses online and that they should assess the fit of the glasses with their avatar. We decided to use blue light glasses as they can be used by anyone. After reading the scenario, participants were provided with several images of their avatar wearing a pair of blue light glasses; participants were asked to carefully assess the glasses via their avatar. Afterwards, participants were asked to answer questions concerning our concepts.

### Manipulation of Avatar Design and Virtual Try-On Process

Avatars were created semi-automatically using blender and Keentools FaceBuilder version 1.0 (Keentools 2022), a 3D-software facilitating the creation of high-resolution face avatars. For the realistic avatars, the images of the participants were directly processed via the software to create an avatar from the unaltered

images. For the beautified avatars, the images were first edited using FaceApp with filters "Hollywood" for men and "Natural" for women (FaceApp 2022), that allowed to beautify skin homogeneity, face symmetry, and face balances (Holtzwart et al. 2022). While these three dimensions pertain to universal standards of beauty across genders, ethnicities, and age groups (Rhodes 2006; Holtzwart et al. 2022), it is important to ensure that the beautified avatars are not too different from the realistic face of a person. To ensure this, all altered avatars were assessed by multiple researchers before using them for the experiment. Figure 2 provides an example for the realistic and beautified version of an avatar. In our pilot, participants tried on a pair of blue-light glasses. The glasses were digitally added to still images rendered from the 3D-software. While participants in the pilot study were only able to view still images of the rendering of their face avatar, participants in the main study will see static 3D avatars with a 3D-asset of the glasses in a 3D-viewer.



Example of a Realistic Avatar

Example of a Beautified Avatar

**Figure 2. Examples of Treatments**
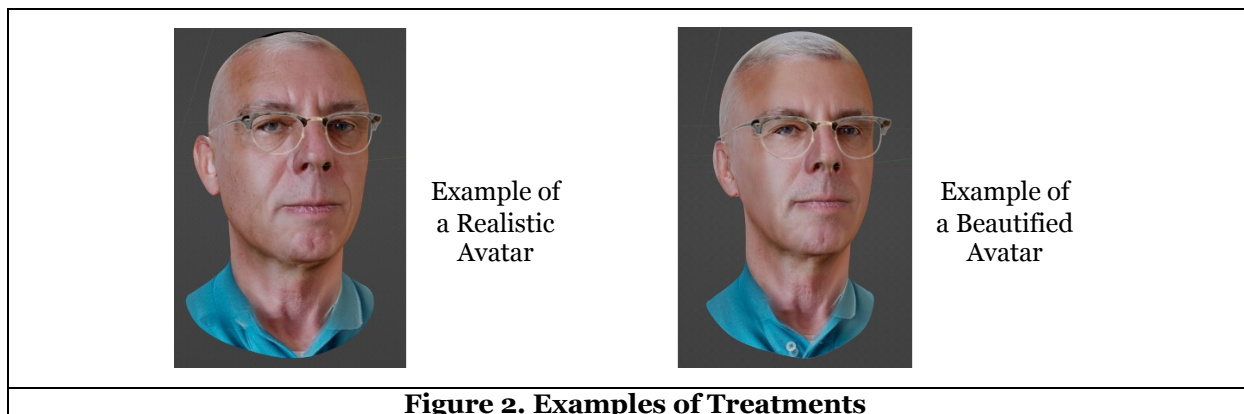
### *Measures*

Ideal self-congruity with the avatar was measured on a 7-point Likert scales adapted from Sirgy et al. (1997) with "The avatar looks consistent with how I would like to see myself", "The avatar reflects who I would like to be", and "The avatar looks like what I would like to see when in the mirror" (Cronbach Alpha .95). In the pilot study positive emotion was operationalised as sentiment score calculation between -1 and 1 based on participants' responses to"At first glance I would describe my avatar as…. (Please specify exactly 5 adjectives separated by a comma)", using the Vader Lexicon of NLTK in Python (Feine et al. 2019). In the main study we will measure affective emotion with Richin's (1997) Consumptions Emotions Set, especially suitable for empirical studies rooted in appraisal theory (Bagozzi et al. 1999). With regards to willingness-to-pay participants were asked to directly state how much money in Euros they would be willing to spend on the bluelight-glasses, in a direct elicitation process (Breidert et al. 2006). We included measures for a manipulation check and eeriness, both measured on 7-point semantic differentials with "The avatar rendering looks" "realistic"|"beautified" and "eerie"|"sophisticated", respectively, the semantic differential scales were in line with self-congruity theory research (Sirgy et al. 1985). Control measures include age, gender, self-esteem pre-exposure and post-exposure, frequency of online shopping, and quality of input images.

## Preliminary Results

The analysis of our manipulation check of the perceived beautification, an independent sample t-test, indicated a significant group difference, $t(60) = -4.91$, $p < .001$, confirming that participants in the beautified avatar condition perceived the avatar as more beautified (M=5.09, SD=1.53) than participants in the realistic avatar condition (M = 3.13, SD = 1.61). We, thus, conclude that our manipulation was effective.

The sample size of the conducted pilot study did not yet provide enough statistical power to test our mediation model (Faul et al. 2007). Therefore, we assess the effect of our treatment on the focal constructs in our preliminary analysis with a series of t-tests. The descriptive statistics as well as the t-test results provide important information for our main data analysis (see Table 1). The directions of the effects are in line with our hypotheses. Yet, the observed mean differences are only significant for the effects of avatar design on ideal self-congruity. We find significant evidence to support H1 that beautified avatars elicit

higher ideal self-congruity than realistic avatars. The direct effect of avatar design on willingness-to-pay is nearly significant, pointing towards the support of H4, that beautified self-avatars elicit higher willingness-to-pay than realistic avatars. We aim to investigate H2, H3 and our mediation hypothesis in our main experiment. The mediation analysis of our main experiment's data will allow us to consider the effect of our control variables. Especially, eeriness as well as previous experience with avatars are very likely to impact the effect of avatar design on the different constructs. In sum, the preliminary results int that the answer to RQ1 might be that beautified self-avatars do increase users' willingness-to-pay. The results also indicate that this might be explained by ideal-self congruity, cueing the answer to RQ2.

|  | Avatar | N | M(SD) |  | Statistic | df | p |
|---|---|---|---|---|---|---|---|
| Ideal Self- Congruity | Beautified | 30 | 3.50 (1.50) | Student's t | -2.06 | 60 | 0.043 |
|  | Realistic | 32 | 2.77 (1.28) |  |  |  |  |
| Sentiment Score | Beautified | 30 | 0.387 (0.466) | Student's t | -1.35 | 60 | 0.182 |
|  | Realistic | 32 | 0.297 (0.417) |  |  |  |  |
| Willingness-to-pay | Beautified | 30 | 79.8 (53.2) | Student's t | -1.99 | 60 | 0.051 |
|  | Realistic | 32 | 54.8 (44.7) |  |  |  |  |
| **Table 1. Descriptive Statistics and T-Tests** | | | | | | | |

## Expected Contributions and Future Work

To explain the effect of avatar beautification on users' willingness-to-pay in commercial metaverse applications, we used self-congruity and appraisal theory combining cognitive and emotional pathways. We aim to contribute to HCI research on user behaviour in commercial metaverse applications by providing a novel perspective avatar design by considering the role of ideal self-congruity. Previous work (e.g., Suh et al. 2011) has focused on the concept of actual self-congruity with avatars, while the role of ideal self-congruity for users' perceptions and behaviours in the task-focused use of avatars has not been considered. In addition, our inclusion of appraisal theory seeks to highlight the relevance of emotional responses to avatars. While literature on eerie responses to avatars (Seymour et al. 2021) has focused on detrimental effects of negative responses to realistic human-like designs, our inclusion of positive emotions allows to highlight the positive effects of avatar beautification. Avatar beautification can empower users by alleviating self-perceived insecurities and negative emotions (Kim and Sundar 2012), but excessive use could amplify the gap between virtual and physical identity, warranting careful consideration by designers. Education or regulations might be necessary to address possible societal impacts, e.g., the reinforcement of unrealistic beauty standards (Kleemans et al. 2018). Finally, we trust that our work is relevant for practitioners: we establish *that* and *why* beautification of avatars increases users' willingness-to-pay in commercial metaverses. Results from our pilot study provide important directions for our main study. We can observe a positive yet only near significant effect of beautification on willingness-to-pay. We are assertive that increasing the statistical power of our main study with a larger sample will uncover stronger effects. Moreover, this larger sample will allow us to test our proposed mediation. We will reassess our measure of emotional responses to avatar design; granular differentiation of emotion based on Richin's (1997) Consumption Emotion Scale seem more fit to capture nuances in users' responses than sentiment scores. Overall, our preliminary data suggests that our research model and main experiment can contribute to research and practice on metaverses.

## Acknowledgements

## References

Bagozzi, R. P., Gopinath, M., and Nyer, P. U. 1999 "The role of emotions in marketing," Journal of the academy of marketing science (27:2), pp. 184-206.

Breidert, C., Hahsler, M., and Reutterer, T. 2006. "A review of methods for measuring willingness-to-pay," Innovative marketing (2:4), pp. 8-32.

Chevalier, S. 2022. "Retail e-commerce sales worldwide from 2014 to 2025," Statista. (https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sa les/)

Choi, S. M., and Rifon, N. J. 2012. "It is a match: The impact of congruence between celebrity image and consumer ideal self on endorsement effectiveness," Psychology & Marketing (29:9), pp. 639-650.

Davis, A., Murphy, J. D., Owens, D., Khazanchi, D., and Zigurs, I. 2009. "Avatars, people, and virtual worlds: Foundations for research in metaverses," Journal of the Association for Information Systems (10:2), pp. 90-117.

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., … and Wamba, S. F. 2022. "Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy," International Journal of Information Management (66), 102542.

FaceApp. 2022. "Features," FaceApp Technology Limited (https://www.faceapp.com/#features)

Faul, F., Erdfelder, E., Lang, A., and Buchner, A. 2007. "G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences," Behavior research methods (39:2), pp. 175-191.

Feine, J., Morana, S., and Gnewuch, U. 2019. "Measuring service encounter satisfaction with customer service chatbots using sentiment analysis," Proceedings of the 14th International Conference on Wirtschaftsinformatik.

Folkman, S., and Lazarus, R. 1985. "If It Changes It Must Be a Process: Study of Emotion and Coping during Three Stages of a College Examination," Journal of Personality and Social Psychology (48:1), pp. 150-170.

Griffin, A. M., and Langlois, J. H. 2006. "Stereotype directionality and attractiveness stereotyping: Is beauty good or is ugly bad?," Social cognition (24:2), pp. 187-206.

Hinz, O., Hann, I.-H., and Spann, M. 2011. "Price Discrimination in E-Commerce? An Examination of Dynamic Pricing in Name-Your-Own Price Markets," MIS Quarterly (35:1), pp. 81-98.

Holtzwart, R., Seeger, A., and Heinzl, A. 2022. "Beauty is in the Eye of the Controller: Designing Avatars for the Actual and Ideal Self," ICIS 2022 Proceedings.

Homburg, C., Koschate, N., and Hoyer, W. D. 2005. "Do Satisfied Customers Really Pay More? A Study of the Relationship between Customer Satisfaction and Willingness to Pay," Journal of Marketing (69:2), pp. 84-96.

Hwangbo, H., Kim, E. H., Lee, S. H., and Jang, Y. J. 2020. "Effects of 3D virtual "try-on" on online sales and customers' purchasing experiences," IEEE Access (8), pp. 189479-189489.

KeenTools LLC. 2022. "FaceBuilder for Blender 1.0," Keentools. (https://keentools.io/products/facebuilder-for-blender).

Kim, H., and Damhorst, M. L. 2010. "The Relationship of Body-Related Self-Discrepancy to Body Dissatisfaction, Apparel Involvement, Concerns with Fit and Size of Garments, and Purchase Intentions in Online Apparel Shopping," Clothing and Textiles Research Journal (28:4), pp. 239-254.

Kim, J., and Bae, J. 2023. "Influences of persona self on luxury brand attachment in the Metaverse context," Asia Pacific Journal of Marketing and Logistics.

Kim, J., and Forsythe, S. 2008. "Adoption of Virtual Try-on Technology for Online Apparel Shopping," Journal of Interactive Marketing (22:2), pp. 45-59.

Kim, H., and Kwon, D. 2010. "Computational model of emotion generation for human-robot interaction based on the cognitive appraisal theory," Journal of Intelligent & Robotic Systems (60), pp. 263-283.

Kim, Y., and Sundar, S. S. 2012. "Visualizing ideal self vs. actual self through avatars: Impact on preventive health outcomes," Computers in Human Behavior (28:4), pp. 1356-1364.

Kleemans, M., Daalmans, S., Carbaat, I., and Anschütz, D. 2018. "Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls," Media Psychology (21:1), pp. 93-110.

Langlois, J., Kalakanis, L., Rubenstein, A., Larson, A., Hallam, M., and Smoot, M. 2000. "Maxims or Myths of Beauty? A Meta-Analytic and Theoretical Review," Psychological Bulletin (126:3), pp. 390-423.

Latoschik, M. E., Roth, D., Gall, D., Achenbach, J., Waltemate, T., and Botsch, M. 2017. "The effect of avatar realism in immersive social virtual realities," Proceedings of the 23rd ACM symposium on virtual reality software and technology, pp. 1-10.

Lazarus, R. S. 1991. "Cognition and Motivation in Emotion," American Psychologist (46:4), pp. 352-367.

Leyvand, T., Cohen-Or, D., Dror, G., and Lischinski, D. 2006. "Digital Face Beautification," in ACM SIGGRAPH 2006 Sketches on - SIGGRAPH '06, Boston, Massachusetts: ACM Press, July, pp. 169.

Liu, Yuzhao, Liu, Yuhan, Xu, S., Cheng, K., Masuko, S., and Tanaka, J. 2020. "Comparing VR- and AR-Based Try-On Systems Using Personalized Avatars," Electronics (9:11), pp. 1814.

Merle, A., Senecal, S., and St-Onge, A. 2012. "Whether and How Virtual Try-On Influences Consumer Responses to an Apparel Web Site," International Journal of Electronic Commerce (16:3), pp. 41-64.

Miao, F., Kozlenkova, I. V., Wang, H. X., and Palmatier, R. W. 2022. "An Emerging Theory of Avatar Marketing," Journal of Marketing (86:1), pp. 67-90.

Oliver, R. L. 2014. "Satisfaction: A Behavioral Perspective on the Consumer: A Behavioral Perspective on the Consumer," (2nd ed.), Routledge.

Pujades, S., Mohler, B., Thaler, A., Tesch, J., Mahmood, N., ..., Black, M. J. 2019. "The virtual caliper: rapid creation of metrically accurate avatars from 3D measurements. IEEE trans-actions on visualization and computer graphics," IEEE Transactions on Visualization and Computer Graphics (25:5), pp. 1887-1897.

Richins, M. L. 1997. "Measuring emotions in the consumption experience. Journal of consumer research," (24:2), pp. 127-146.

Rhodes, G. 2006. "The Evolutionary Psychology of Facial Beauty," Annual Review of Psychology (57:1), pp. 199-226.

Schupp, H. T., Markus, J., Weike, A. I., and Hamm, A. O. 2003. "Emotional Facilitation of Sensory Processing in the Visual Cortex," Psychological Science (14:1), pp. 7-13.

Seeger, A. M., Pfeiffer, J., and Heinzl, A. 2021. "Texting with humanlike conversational agents: Designing for anthropomorphism," Journal of the Association for Information Systems (22:4), pp. 931-967.

Setterstrom, A. J., and Pearson, J. M. 2019. "Social influence and willingness to pay for massively multiplayer online games: An empirical examination of social identity theory," Communications of the Association for Information Systems (44:1), pp. 33-61.

Seymour, M., Yuan, L., Dennis, A. R., and Riemer, K. 2021. "Have We Crossed the Uncanny Valley? Understanding Affinity, Trustworthiness, and Preference for Realistic Digital Humans in Immersive Environments," Journal of the Association for Information Systems (22:3), pp. 591-617.

Sirgy, M. J. 1985. "Using Self-Congruity and Ideal Congruity to Predict Purchase Motivation," Journal of Business Research (13:3), pp. 195-206.

Sirgy, M. J., Grewal, D., Mangleburg, T., Park, J., Chon, K., Claiborne, C., ... and Berkman, H. 1997. "Assessing the predictive validity of two methods of measuring self-image congruence," Journal of the academy of marketing science (25), pp. 229-241.

Suh, K.-S., Kim, H., and Suh, E. K. 2011. "What If Your Avatar Looks Like You? Dual-Congruity Perspectives for Avatar Use," MIS Quarterly (35:3), pp. 711-729.

Tan, T., Salo, J., Juntunen, J., and Kumar, A. 2019. "The role of temporal focus and self-congruence on consumer preference and willingness to pay: A new scrutiny in branding strategy," European Journal of Marketing (53:1), pp. 37-62.

Vasalou, A., Joinson, A., Bänziger, T., Goldie, P., and Pitt, J. 2008. "Avatars in Social Media: Balancing Accuracy, Playfulness and Embodied Messages," International Journal of Human-Computer Studies (66:11), pp. 801-811.

Waltemate, T., Gall, D., Roth, D., Botsch, M., and Latoschik, M. E. 2018. "The impact of avatar personalization and immersion on virtual body ownership, presence, and emotional response," IEEE transactions on visualization and computer graphics (24:4), pp.1643-1652.

Westerman, D., Tamborini, R., and Bowman, N. D. 2015. "The Effects of Static Avatars on Impression Formation across Different Contexts on Social Networking Sites," Computers in Human Behavior (53), pp. 111-117.

Yuan, L., and Dennis, A. R. 2019. "Acting Like Humans? Anthropomorphism and Consumer's Willingness to Pay in Electronic Commerce," Journal of Management Information Systems (36:2), pp. 450-477.