WHEN REALITIES CLASH:
THE IMPACT OF AUGMENTED REALITY BEAUTY FILTERS

By

Jared Ross

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
For the degree of

Media and Information – Master of Arts

2025

ABSTRACT

In an era dominated by technological evolution, identity construction and mental wellbeing are increasingly shaped by new digital tools. Among the most powerful and widely accessible are augmented reality (AR) beauty filters. Grounded in Self-Discrepancy Theory (SDT) and viewed through the lens of Self-Presentation and Social Comparison Theories, this study examines how motivations to present an ideal self can influence the use of AR beauty filters and the downstream effects that use has on online-offline identity consistency (self-concept clarity), self-discrepancy gaps, mental wellbeing, and future social media and AR beauty filter engagement. A cross-sectional survey (N = 289) was conducted using validated and adapted measures. Results showed that motivation for ideal self-presentation significantly predicted greater use of AR beauty filters for ideal/false self-presentation, which in turn predicted lower identity consistency. While lower identity consistency was associated with mental wellbeing, the results suggest a more complex relationship where short-term benefits may bypass or dampen the effects. Consistent with SDT, larger gaps between the actual-ideal selves reduced mental wellbeing, and AR-related discrepancies influenced this relationship. Self-esteem emerged as a strong moderator of the effect AR filter use has on the discrepancy gaps, narrowing the gap for low self-esteem users and widening it for high self-esteem users. Finally, contrary to the hypothesized direction, individuals with higher mental wellbeing showed greater future intent to use AR beauty filters and social media. These findings reveal a nuanced and complicated relationship between AR beauty filters, identity, and mental wellbeing. Further, these findings offer important insights for designers, educators, policymakers, and future research on AR beauty filters and online self-presentation.

ACKNOWLEDGMENTS

I would first like to express my sincere gratitude and appreciation to Dr. David Ewoldsen. As the first faculty member I met in the program, Dr. Ewoldsen invited me into his world, encouraged my curiosity, and helped shape the foundation for how I think about media, technology, and the mechanisms that underlie our engagement with both. Through courses, labs, and conversations, he pushed me to think critically and ask harder questions – many of which became central to this thesis. I am thankful for his early guidance, support, and lasting influence.

I would also like to express my gratitude and say thank you to Dr. Ruth Shillair for her unwavering, hands-on support throughout the entirety of both the program and this project. Dr. Shillair's thoughtful mentorship, steady encouragement, and practical advice helped bring this thesis to life. Her ability to keep the process moving forward with clarity and compassion made all the difference, and I would not have made it to the finish without her.

Finally, I would like to thank Dr. Nancy Rhodes, whose support as a committee member, lab leader, and instructor was invaluable. Her insights challenged me to refine my thinking and pushed me toward a more rigorous and thoughtful approach to research. I am grateful for every moment I had learning from her, both in and out of the classroom. Each lesson provided me with the groundwork for understanding how to navigate this project.

This thesis is the culmination of a stressful, tedious, fun, and rewarding learning experience that expanded both my academic and personal growth. I am deeply appreciative of the faculty who guided me, and I will carry their lessons forward with lasting impact.

TABLE OF CONTENTS

INTRODUCTION

In the contemporary digital era, social media platforms like Facebook, Instagram, and TikTok have become integral to everyday life. Every day, nearly 60% of the global population uses some form of social media (Nyst, 2023). Now, equipped with features to encourage engagement through self-expression and self-presentation such as profile customization, short form video creation, and emerging technology integration such as augmented reality (AR) photo and video filters (Manago et al., 2008; Sundar, 2015) what began as a simple venue for social interaction has evolved into an arena for personal discovery, self-exploration, and identity development (Javornik et al., 2021, 2022; Manago et al., 2008).

Among those features, AR beauty filters have emerged as a significantly powerful tool. Snapchat, one of the pioneers in AR filters has reported that roughly 600 million users interact with AR filters each month, with 76% of daily active users applying at least one filter every day (Javornik et al., 2022). Once playful visual add-ons, these filters now enable real-time alterations of facial structure, skin tone, and body proportions (Javornik et al., 2021, 2022). They seemingly offer users the ability to inhabit and broadcast an idealized self that may diverge sharply from their unfiltered appearance and by extension, from their offline identity. Further, as users utilize these filters to embody this idealized self or internalized standards, psychological consequences may be lurking in the pixels (Javornik et al., 2021, 2022; Tiggermann & Anderberg, 2020).

A growing body of work has linked AR beauty-filter use to lower self-esteem and heightened appearance and body dissatisfaction (Javornik et al., 2021, 2022; Meier et al., 2021; Tiggermann & Anderberg, 2020). However, they often treat the online person as an uncomplicated mirror of the offline self that reflects only appearance (Javornik et al., 2022). This assumption fails to recognize evidence that social-media users routinely construct a false self.

Users of social networking sites often develop a false self as an online identity for exploration, impression management, or social gain (Manago et al., Michikyan et al., 2014). As the users toggle between their embellished – often idealized – online self and their actual offline self, internal identity-related consequences can become a risk (Higgins, 1987; Gabarnet et al., 2023; Javornik et al., 2021, 2022; Michikyan et al., 2014). This risk is often referred to as a widening actual-ideal self-discrepancy gap, as outlined by Higgins' Self-Discrepancy Theory (1987). If AR beauty filters amplify this actual-ideal discrepancy gap, can it further fracture the alignment between users' online and offline selves, and if so, with what mental wellbeing implications? This is an area that remains unclear and presents the core gap this study addresses.

The present study, grounded in Self-Discrepancy Theory, Self-Presentation Theory, and Social Comparison Theory, investigates how motivations to present an idealized self may drive AR beauty filter use, shape online/offline identity consistency, and influence mental wellbeing and future engagement. The findings offer insight for future research and potential strategies for healthier digital engagement and design.

LITERATURE REVIEW

SELF-DISCREPANCY THEORY

Self-Discrepancy Theory (SDT), introduced by E.T. Higgins (1987), provides a foundational framework for understanding the emotional and psychological consequences that emerge when there are mismatches between various self-representations. The theory proposes that individuals carry three distinct selves: the actual self (one's current attributes), the ideal self (attributes one wishes to possess), and the ought self (attributes one believes others expect they should possess). When there are discrepancies – or a gap – between these selves, it can produce distinct negative emotions. Actual-ideal discrepancy gaps can elicit dejection-related emotions (e.g., sadness, disappointment), while actual-ought gaps can trigger agitation-related emotions (e.g., anxiety, guilt) (Higgins, 1987).

Somewhat like the concept of Cognitive Dissonance Theory (Festinger, 1957), SDT highlights how negative emotions motivate individuals to reduce their discrepancy gap (Festinger, 1957; Higgins, 1987; Mason et al., 2019). However, SDT's emphasis on self-concept provides a targeted lens to investigate identity-related distress (Higgins, 1987). Extensive research has demonstrated that self-discrepancies can involve both attributes and external features like physical appearances (Higgins, 1987; Javornik et al., 2021, 2022; Strauman & Higgins, 1987). Regardless of attribute-based or appearance-based, larger actual-ideal gaps have been shown to predict lower self-esteem, higher levels of depression, body dissatisfaction, and maladaptive health behaviors like disordered eating (Cash & Szymanski, 1995; Heron & Smyth, 2013; Strauman & Higgins, 1987). As the digital world continues to expand, social media platforms have sparked a renewed interest in SDT and its application to online identity construction and self-presentation

Social networking sites (SNS) offer new tools and contexts for users to explore and present idealized versions of themselves. These digital affordances allow users to explore and experiment with their identity in ways that differ significantly from their offline and actual selves (Javornik et al., 2022; Manago et al., 2008; Michikyan et al., 2014). Through the creation of their online identity, users often form a "false self," a form of self-presentation that significantly diverges from one's self-concept (Michikyan et al., 2014). While the "false self" allows for identity exploration, it also increases the potential for actual-ideal discrepancies, particularly when users engage in upward comparisons between their actual/offline selves and their ideal/online self (Bailey et al., 2020; Manago et al., 2008).

Further, studies have demonstrated that these platforms amplify the salience of actual-ideal discrepancies by exposing users to algorithmically curated content that pushes unattainable beauty standards (Chae, 2017; Javornik et al., 2022). A study by Fardouly et al. (2015) highlights the role social media plays in perpetuating social comparison and reinforcing unrealistic ideals. The findings suggest social media exposure increases physical appearance discrepancies, likely due to heightened social comparison (Fardouly et al., 2015). Within this context, the digital self may become a complex, distinct, ideal, and often fragmented identity – especially as consistency between online and offline identities is challenged.

ONLINE/OFFLINE IDENTITY CONSISTENCY

As users curate their digital self-representation, they develop their online or digital identity (Davison, 2012). Researchers have debated whether this online identity remains consistent with the offline identity or reflects a highly fragmented or curated identity (Davison, 2012). Some argue that online identities more often diverge from offline identities, particularly in ways that emphasize aspirational or idealized traits or appearances (Manago et al., 2008;

Michikyan et al., 2014; Trub, 2017). Others argue that while the online self may limit or filter aspects of their offline or actual identity, it remains consistent with their offline self-concept (Davison, 2012). Trub (2017) adds nuance to this debate by suggesting that the reasons for potential online/offline identity divergence matter. In some cases, individuals use these online spaces for self-exploration or to seek connection with communities not accessible in their offline environments (Trub, 2017). These acts of online identity construction may be less about deception or false and idealized self-concepts and more about navigating safety, authenticity, or belonging.

While it is important to understand if and why online and offline identities align, it is equally critical to understand the consequences when they do not. A growing body of research suggests that as the divergence between online and offline identities grows, it can negatively impact mental wellbeing (Lin et al., 2018; Manago et al., 2008; Michikyan et al., 2014). A 2018 study from Lin et al. proposed the Online/Offline Integration Hypothesis. They suggest that higher levels of integration between online and offline identity are associated with greater self-concept clarity, stronger social engagement, and improved mental wellbeing. This aligns with prior research suggesting that greater self-concept clarity is linked to greater mental wellbeing (Hanley & Garland, 2017). In the digital world, self-concept clarity plays a significant role in how users present themselves. Those with lower self-concept clarity are more likely to craft an online identity that diverges from their offline self, mirroring the concept of the false self (Michikyan et al., 2014; Strimbu & O'Connell, 2019). Understanding the alignment or misalignment between the online and offline selves not only provides insights into potential actual-ideal gaps but is essential to understanding self-presentation in the digital world.

SELF-PRESENTATION THEORY

This concept of a digitally constructed "false self" aligns closely with the concepts central to Self-Presentation Theory (Goffman, 1959). The theory suggests that individuals strategically and actively manage their behavior and appearance to influence others' perceptions. In both offline and online settings, people engage in strategic self-presentation, selecting which aspects of their identity to display or conceal depending on the audience and the platform (Davison, 2012; Goffman, 1959; Manago et al., 2008). Social media platforms offer a wide selection of tools – like profile customization, photo editing, test-based posts, and augmented reality (AR) filters – allowing users to shape their digital self with precision (Manago et al., 2008; Michikyan et al., 2014; Javornik et al., 2022). In line with self-presentation theory, these tools are often used to emphasize ideal attributes and hide perceived flaws from their online audience (Manago et al., 2008; Michikyan et al., 2014; Sundar, 2015). However, while these tools make it easier for individuals to explore different aspects of self, the self-presentation they enable is often a curated, false, or idealized version of the self (Javornik et al., 2022; Michikyan et al., 2014; Sundar, 2015). This kind of idealized self-presentation can sometimes be beneficial in situations such as exploring identity and seeking social approval or safety (Trub, 2017). However, research shows that authenticity in digital self-expression, and actual self-presentation is more strongly associated with positive outcomes like greater self-concept clarity and improved mental wellbeing (Bailey et al., 2020; Lin et al., 2018).

Further, the engagement of ideal or false self-presentation may potentially create a negative cycle. As users present false or idealized versions of themselves online, they risk decreased identity consistency and larger gaps between their actual and ideal selves. These negative consequences may result in lower mental wellbeing, which in turn may reinforce

continued use of idealized self-presentation strategies (Bailey et al., 2020; Lin et al., 2018; Michikyan et al., 2014; Strimbu & O'Connell, 2019). In this hypothetical cycle, the digital self becomes increasingly disconnected from the offline self, further creating and enabling emotional strain and identity confusion. Additionally, it is important not to forget where these acts of self-presentation occur. Social media platforms are (as the name suggests) highly social environments. The type of environments where individuals are not only engaging in self-presentation and impression management but are constantly exposed to the ideal self-presentation of others. This dynamic can make social comparison an inevitable and highly influential part of digital identity construction.

SOCIAL COMPARISSON THEORY

Social Comparison Theory (Festinger, 1954) says that people evaluate themselves, their abilities, attributes, and self-worth by comparing themselves to others. In online environments, where curated and idealized self-presentations are the norm, these comparisons may become more pronounced, common, and harmful (Fardouly et al., 2015; Harriger et al., 2022). As discussed, the tools found on social media platforms enable and encourage users to present a false or idealized version of themselves. In turn, they are often comparing these idealized representations of themselves and of their peers with their offline actual self, a process of upward social comparison (Chae, 2017; Manago et al., 2008; Michikyan et al., 2014). As individuals make these comparisons, they often do so using the platform's quantifiable evidence of social engagement such as likes, comments, and follower counts (Chae, 2018; Javornik et al., 2021, 2022; Michikyan et al., 2014).

Research has consistently shown that upward social comparison on these platforms can intensify feelings of inadequacy, dissatisfaction, and decreased self-worth, potentially increasing

actual-ideal discrepancies (Fardouly et al., 2015; Javornik et al., 2021, 2022; Tiggermann & Anderberg, 2020). This process can further feed into the hypothetical cycle discussed earlier. As users engage in upwards social comparison and experience negative mental wellbeing due to increased gaps between the actual and ideal self, they attempt to close the gap through further engagement with idealized self-presentation on social platforms, starting the cycle over (Fardouly et al., 2015; Sundar, 2015).

However, it is important to note that the process is not entirely under users' control. Social media platforms utilize algorithms that actively shape what content users see (Harriger et al., 2022; Yang, 2016). Even when users who intentionally try to avoid engaging with idealized content may still be exposed to it due to algorithms. For example, users who don't engage in ideal self-presentation and avoid content from peers who do may still be shown influencer content that reflects idealized beauty norms (Harriger et al., 2022; Pedalino & Camerini, 2022; Yang, 2016). This content is boosted by algorithmic trends and engagement metrics and with no way to control an individual's algorithm, content that triggers social comparison can become unavoidable (Chae, 2017, 2018; Harriger et al., 2022; Pedalino & Camerini, 2022). These algorithms function as engines for social comparison, bringing content to the surface that encourages users to measure themselves against digitally enhanced and often unrealistic portrayals of others. Portrayals that are made possible through platform tools like augmented reality beauty filters.

AUGMENTED REALITY (AR) BEAUTY FILTERS

Augmented reality (AR) filters were first introduced to online social spaces as a tool for enhancing selfies and short-form videos through playful visual effects (Javornik et al., 2022). Many considered them to be a novelty, but their popularity suggests this is no longer the case –

being used once a month by at least 600 million social media users and 76% of Snapchat users using the filters daily (Javornik et al., 2021; 2022). With their growth in popularity and evolving technology, the kinds of filters available have expanded. Beauty filters have become an increasingly popular option from the wide assortment of options. These filters enable users to alter their appearance in real time, visualizing modified facial structure, skin tone, hair, eye color, and even gendered or racialized features (Javornik et al., 2021, 2022). AR beauty filters have removed the idea that these filters are a novelty. They are now a powerful tool for self-presentation, but they encourage the construction and engagement with a false or idealized version of the self.

The literature on AR beauty filters has increasingly highlighted the psychological risks associated with their use. For instance, using AR beauty filters or even simply being exposed to others' filtered content can potentially exacerbate actual-ideal discrepancy gaps, particularly in terms of physical appearance (Dijkslag et al., 2024; Javornik et al., 2022; Fardouly et al., 2015). In turn, and consistent with SDT, the larger gaps can lead to lower mental wellbeing, self-esteem, and greater body dissatisfaction (Fardouly et al., 2015; Javornik et al., 2022). Frequent engagement, regardless of use or exposure, has also been associated with increased self-objectification and increased social-comparison, leading to heightened internalization of unattainable beauty ideals (Casillo-Hermosilla et al., 2024; Dijkslag et al., 2024; Fardouly et al., 2015). Over time, this internalization can reshape users' self-concept, and as they use AR beauty filters to present their ideal self that meets these standards, online and offline identities may diverge and actual-ideal discrepancy gaps may be intensified (Casillo-Hermosilla et al., 2024; Fardouly et al., 2015; Higgins, 1987; Javornik et al., 2022). The long-term consequences of these

risks have been linked to lower mental wellbeing and maladaptive health behaviors like eating disorders as users' struggle with body image issues (Cohen et al., 2018; Fardouly et al., 2015).

However, the impact of AR beauty filters is not solely determined by their use. Motivation plays an important role in determining the effects as well as how the filters are used (Javornik et al., 2022). When motivated by true or transformed self-presentation, their use has been linked to increases in actual self-acceptance and mental wellbeing, and decreased filter use (Javornik et al., 2022). However, motivated by ideal self-presentation, their use is linked to negatively affecting self-concepts, decreasing self-acceptance and mental wellbeing, and increased filter use (Javornik et al., 2022). Further, self-esteem moderates these effects (Javornik et al., 2021; Yim & Park, 2019). For those with low self-esteem, the augmentation to their appearance enables non-consequential experimentation of their appearance and the visualization of a faraway idealized appearance (Javornik et al., 2021). This is directly linked to reducing the appearance-based actual-ideal gap, and boosting self-esteem and mental wellbeing (Javornik et al., 2021). However, the opposite is true for those with high self-esteem. The use of AR beauty filters can challenge users' self-concept as the enhanced virtual representation misaligns with their offline appearance (Javornik et al., 2021, 2022). As their confidence is challenged, they may experience a wider appearance-based actual-ideal gap and with it, decreased self-esteem and mental wellbeing (Javornik et al., 2021; 2022).

Many of the current studies involving AR beauty filters and SDT focus in on appearance-based discrepancies (Javornik et al., 2021, 2022). While appearances may be a key factor, the self-concept is comprised of more than physical features, it includes values, traits, and attributes (Higgins, 1987). As users develop more complex online identities, often diverging from their offline selves, self-concept clarity may be eroded, and actual-ideal gaps may become more

nuanced. Yet the current field of studies rarely consider this. Understanding how AR beauty filters relate to online/offline identity consistency, self-concept clarity, and actual-ideal gaps is critical to understanding the full scope of risks. Additionally, Javornik et al., (2021, 2022) alludes to ideas that align with the hypothetical cycle discussed earlier. They suggest as individuals use AR filters, they may experience increased mental wellbeing through boosted social engagement, reinforcing continued filter use. However, no prior study tests a potential cyclical relationship wherein the motive to present the ideal self drives AR filter use causing negative downstream effects to mental wellbeing – which increases future use intention. These are two critical gaps that the current study aims to address.

RESEARCH QUESTION AND HYPOTHESES

This research builds upon the theoretical frameworks of Self-Discrepancy Theory, Self-Presentation Theory, and Social Comparison Theory. Through the lens of these theories, the gap in how AR beauty filters shape broader identity constructs and contribute to a cyclical pattern of engagement. Accordingly, the following research question guides this study:

RQ1: How do motivations for ideal self-presentation influence AR beauty filter use and how does this use affect online-offline identity consistency, actual-ideal self-discrepancy gaps, mental wellbeing, and future intentions to use social media and AR beauty filters?

To address this question, the study tests a theoretical model (see Figure 1) composed of the following hypotheses:

H1: Motivation to use AR beauty filters for ideal self-presentation will predict greater use of AR beauty filters for ideal/false self-presentation.

H2A: Use of AR beauty filters for ideal/false self-presentation will predict lower online-offline identity consistency (measured through self-concept clarity).

H2B: Lower identity consistency will predict lower mental wellbeing.

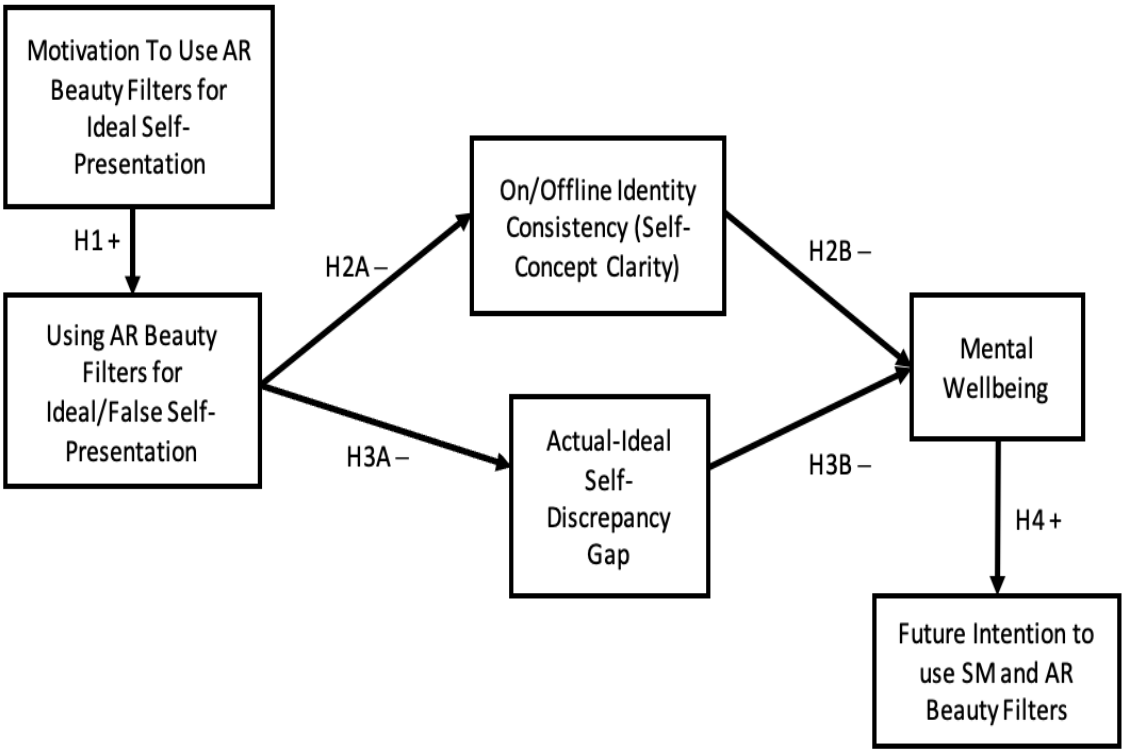
H3A: Use of AR beauty filters for ideal/false self-presentation will predict larger appearance and attribute actual-ideal self-discrepancy gaps.

H3B: Larger actual-ideal self-discrepancy gaps will predict lower mental wellbeing.

H4: Lower mental wellbeing will predict higher future intention to use social media and AR beauty filters.

Together, these hypotheses test a theoretical model in which ideal self-presentation motives initiate AR beauty filter use that disrupts identity coherence and lowers mental wellbeing. The lowered mental wellbeing in turn sustains further engagement with social media and AR beauty filters (See figure 1).

Figure 1: Conceptual Model for Current Study



METHOD

PARTICIPANTS

Crowd workers were recruited via CloudResearch's Amazon MTurk toolkit. Eligibility criteria required participants to (a) reside in the United States, (b) have completed more than 50 MTurk assignments, and (c) maintain a minimum approval rating of 95%. In total, 360 participants completed the survey, after data cleaning, 71 were removed leaving the final sample as N = 289. Participants in the final sample ranged in age from 18-65+ and were 57.8% Male, 41.2% Female, and 1% nonbinary/other. Self-identified race/ethnicity was 97.6% White or Caucasian, 1% Black of African American, 1% Asian, and .3% American Indian/Native American, or Alaska Native. Participation was fully anonymous, and informed consent was obtained electronically prior to participation. Participation was voluntary and compensated at a rate consistent with ethical MTurk research practices at $2.00.

DESIGN AND PROCEDURE

The study employed a cross-sectional survey hosted on Qualtrics. After electronic consent was obtained, participants read a description of AR beauty filters and confirmed their prior experience with them. Users who had no prior experience were taken to the end of the survey. Those who had prior experience, qualified for the study and completed the measures below. Debriefing information appeared on the final screen.

MEASURES AND RELIABILITY

Prior to computing scale scores, all multi-item measures were assessed for internal consistency reliability (see Table 1). Most of the scales demonstrated satisfactory to excellent reliability, with Cronbach's alpha values exceeding the accepted threshold of $\alpha = .70$. However, scales with low reliability were examined for problematic items using "Cronbach's Alpha if Item is deleted"

statistics. Additionally, a factor analysis was conducted on related constructs to determine whether they loaded onto a single underlying factor.

Motivation to Use AR Beauty Filters

Adapted from Javornik et al. (2022). Two 5-item subscales captured true-self and ideal-self presentation motives (7-point scale, 1 = strongly disagree, 7 = strongly agree). Javornik et al. (2022) defines the subscales as follows: true self-presentation as the expression of the person one believes they truly are, and ideal self-presentation as the expression of the person one would ideally like to be. True self-presentation and Ideal Self-Presentation from this scale were determined to adequately align with actual and ideal selves as defined by SDT and were therefore utilized to assess motivations to utilize AR beauty filters (Higgins, 1987; Javornik et al., 2022). The motivation for true self-presentation had an acceptable internal consistency of (α = .880). However, the motivation for ideal self-presentation subscale had one item cause internal consistency issues during reliability analysis (α = .674) and was removed, leaving that subscale with 4 items (α = .727). Additionally, a third subscale measuring the motive for "transformed self-presentation" was collected but excluded from analysis.

Using AR Beauty Filters for Ideal/False Self-Presentation

While motivation is an indicator of how AR beauty filters will be used, the actual use case can differ from the initial motivations (Javornik et al., 2022). To measure actual use of AR beauty filters for ideal/false self-presentation, the Self Presentation on Facebook Questionnaire was adapted to reference "AR beauty filters" (Michikyan et al., 2014). Participants responded to statements about how they utilize AR beauty filters on social media on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). While responses were collected for all five dimensions in

the original scale, only the twelve items spanning the subscales measuring False-self deception, exploration, impression/comparison, and the ideal self were included in the analysis.

The subscales share theoretically related dimensions of idealized self-presentation on social media (Michikyan et al., 2014). The internal consistency for the individual subscales ranged from unacceptable (< .7), to acceptable (> .7) therefore, the conceptual overlap prompted an examination of a higher-order construct. A factor analysis was conducted on all 12 items to determine whether a single factor could explain the variance. The analysis showed one dominant factor with an eigenvalue of 5.715, accounting for 47.6% of the variance with all items loading > .644. Based on these results, all items were combined to form a single composite scale measure use of AR beauty filters for ideal/false self-presentation. The composite showed a more than acceptable internal consistency (α = .899)

Actual-Ideal Self-Discrepancy Gaps

To assess self-discrepancies, participants completed a modified version of Higgins' Selves Questionnaire and an adapted scale measuring perceptions of physical appearance (Higgins et al., 1985; Javornik et al., 2021). The goal was to quantify both attribute-based and appearance-based gaps between participants' actual, ideal, ought, and AR-filtered selves. As the current study focuses on actual-ideal discrepancies, the data from the ought-self was not included in scoring or analysis.

Step 1: *Attribute Generation*

Participants were asked to freely list up to five traits that described each of the three self-representations as outlined by SDT. They were provided with a definition of each self (i.e., "Actual self – "Who you believe you actually are.") and a sample list of potential attributes – participants were told they could include positive and or negative attributes and that they did not

need to be from the sample list. This resulted in up to 15 unique, participant-generated attributes that were stored and used as inputs in the next step.

Step 2: *Attribute Rating*

Each participant's responses were reused dynamically to generate customized attribute matrix-format Likert rating questions. For example, if a participant entered "funny," "smart," and "confident" as attributes for their actual self, "cool," "calm," and "collected" as attributes for their ideal self, and "radical," "interesting," "creative" as attributes for their ought self, the nine unique attributes were populated into the scale. A maximum of 15 attributes were populated (maximum of 5 attributes per self), if duplicate attributes were entered, they were only included once. This allowed for the same exact attribute to be rated across all selves, enabling direct comparison between how consistently participants felt each self-aligned with core attributes, needed to analyze discrepancy gaps (Higgins et al., 1987). Participants received a matrix-format Likert scale for the three SDT selves (actual, ideal, and ought) as well as a fourth self – the AR-filtered self. For this self, participants were given the definition "the version of yourself you present or perceive when using AR beauty filters." Participants responded to how well the unique attributes described each version of themselves on a 5-point scale (1 = not well at all, 5 = extremely well).

Step 3*: Discrepancy Score Construction*

To compute self-discrepancy scores, we focused on the differences in how the same traits were rated across selves. For each participant, we computed the mean rating for each self within each trait set. For each participant, we computed the mean rating for each trait within each self. For example, we created a unique variable for the actual-self, ideal-self, and AR-self average ratings of the attributes listed under the actual self. We repeated this for the attributes listed under

the ideal self as well, allowing for a multidimensional discrepancy structure. Then, we computed the absolute difference scores between the matched-sample ratings. For example, we measured the actual-ideal discrepancy by taking the rating of actual attributes on actual self and subtracting the rating of actual attributes on ideal self. This process was repeated to measure the AR-actual discrepancy and the AR-ideal discrepancy. By anchoring comparisons to how the same set of attributes were perceived across selves, we were able to preserve individual variability in attribute content while maintaining comparability across participants.

Step 4: *Gap Variable*

The discrepancy scores were then averaged across the five attributes per self to produce the following attribute-based discrepancy variables: actual_ideal_gap, AR_actual_gap, and AR_ideal_gap. Each score reflected the magnitude of the discrepancy between selves, with higher values indicating greater levels of internal inconsistencies – or a larger gap.

Step 5*: Appearance-Based Discrepancy*

In addition to the attribute-based gaps, appearance-based self-discrepancy was assessed using a scale adapted from Javornik et al. (2021). The scale measures participants perceptions of attractiveness, beauty, and good looks across actual, ideal, and AR-filtered selves. Participants rated four items for each self-concept on a 7-point Likert scale (1 = not at all accurate, 7 = extremely accurate). The same scoring methodology was applied to create variables for: appearance_actual_ideal_gap, appearance_AR_actual_gap, and appearance_AR_ideal_gap. This left us with six gap variables between appearance and attribute discrepancies.

Online-Offline Identity Consistency (Self-Concept Clarity)

Perceived identity consistency between online and offline selves was conceptualized as self-concept clarity and was assessed using a 12-item scale adapted from Campbell et al. (1986).

Items measured identity stability, clarity, and self-concept conflict. Participants responded on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). Reliability analysis showed an acceptable internal consistency of (α = .776).

Mental Wellbeing

To assess mental wellbeing, participants completed measures assessing self-worth, self-esteem, and mental wellbeing. However, only the scales measuring self-esteem and mental wellbeing were included in the final analysis.

To measure self-esteem, the Rosenberg Self-Esteem Scale was used (Rosenberg, 1979), 10 items rated on a 4-point scale. The guidelines provided by Rosenberg (1979) on scoring were followed. However, during reliability analysis internal consistency was unacceptable (α = .651) with several items showing poor item-total correlations. After removing the four identified items, the scale showed acceptable internal consistency (α = .748). The Warwick-Edinburgh Mental Wellbeing (WEMWBS) scale was used to measure overall mental wellbeing (Tennant et al., 2007). The scale contains 14 items rated on a 5-point scale (1 = none of the time, 5 = all of the time). Reliability analysis confirmed an acceptable internal consistency (α = .888).

Social Media and AR Beauty Filter Future Use Intention

Future use intention was measured using a scale developed following the guidelines for Theory of Planned Behavior and Reasoned Action Questionnaire Development from Fishbein & Ajzen (2010). Participants reported current platform and AR beauty filter use frequency on 5-point scale (1 = never, 5 = 6+ times daily), followed by six intention-related items (e.g., “I intend to maintain my current level of social media use over the next 3 months”) on a 7-point scale (1 = strongly disagree, 7 = strongly agree). However, the internal consistency was very poor (α =

.214). Two items were found to be problematic, and upon removing them, the reliability was acceptable (α = .727), and the four-item scale was kept.

Demographics

Age, gender, race/ethnicity, education, income, employment, and political orientation were collected for descriptive and exploratory purposes.

Table 1: Reliability and Descriptive Statistics

	α	M	SD
Motivation for True-Self Presentation	.880	5.42	1.11
Motivation for Ideal-Self Presentation	.727	5.16	1.12
Using for Ideal/False-Self Presentation	.899	5.35	0.87
Self-Concept Clarity	.776	3.24	0.76
SM/AR Future Use Intention	.772	5.36	0.97
Self-Esteem	.748	2.54	0.61
Mental Wellbeing	.888	3.95	0.58

Note. *α = Cronbach's alpha. N = 28*

RESULTS

DATA CLEANING

Prior to analysis, the dataset underwent a comprehensive data cleaning procedure to ensure quality and reliability of responses. The initial sample (N = 360) consisted of participants who were recruited through Amazon Mechanical Turk (MTurk). Multiple criteria were used to identify and remove low-quality responses.

First, speeding was used as a proxy for inattention. The median response time for the entire survey was 14 minutes 33 seconds. Participants who completed the survey in less than half the median response time (7 minutes 16 seconds) were flagged as speeders. Speeding was reviewed in relation to steps two and three (see below) of which all speeders failed both steps. Therefore, all flagged speeders were removed. Second, straight lining was assessed across all matrix-based Likert scales. Participants who selected the same response across every item or left over 25% incomplete within multiple repeating scales were flagged for potential satisficing and reviewed for exclusion.

Third, the three open-ended self-description sections – used to have participants share their actual, ideal, and ought self-attributes – were reviewed for incompleteness, redundancy, and generative AI. Participants who provided non-answers, identical or nearly identical lists across all three conditions, or utilized generative AI were flagged. Generative AI was determined to be utilized in cases where participant attributes consisted of answers that included direct references to self-determination theory, E.T. Higgins, or clearly stated “As an AI bot, I am unable to. . .” Fourth, IP address metadata was used to identify potentially duplicated responses. When participants shared identical IP addresses and submitted identical or nearly identical responses within a narrow time window (less than 30 minutes), these cases were reviewed in conjunction

with other flags. In instances of suspected duplication, only one response was retained. Following the manual review of all flagged cases (N = 87), a total of 71 responses were determined to be invalid and subsequently removed. The final sample included N = 289 valid participants.

CORRELATION ANALYSIS

Pearson correlations among key study variables appear in Table 2 (N =289).

Consistent with H1, motivation to present the ideal self (M = 5.16, SD = 1.12) correlated strongly and positively with using AR beauty filters for ideal/false self-presentation (r = .586**, p < .001). Additionally, using AR beauty filters for ideal/false self-presentation was strongly correlated with lower self-concept clarity (r = -.705**, p < .001), consistent with H2A. Self-concept clarity also correlated negatively with mental wellbeing (r = -.382**, p < .001), consistent with H2B. The correlation between using AR beauty filters for ideal/false self-presentation and the attribute-based actual-ideal self-discrepancy gap was weak and negative (r = -.156*, P = .008). This was inconsistent with H3A and prompted additional analysis during hypothesis testing. Consistent with H3B, all attribute- and appearance-based actual-ideal, AR-actual, and AR-ideal gaps correlated negatively with wellbeing. Only the attribute-based AR-actual gap was not significant (see Table 2). Mental wellbeing was correlated positively with SM and AR beauty filter future use intention (r = .620**, < .001), foreshadowing an interesting relationship investigated in H4. Other interesting patterns emerged as well. Specifically, how the self-discrepancy gaps relate to self-concept clarity, self-esteem, and mental wellbeing (See Table 2). While not discussed extensively, the results suggest a nuanced pattern where larger gaps between AR-actual or AR-ideal selves may offer short term boosts to self-esteem and self-concept clarity. However, the benefits seemingly coexist with reduced mental wellbeing. Overall,

the correlation matrix broadly aligns with the proposed model. Following the preliminary analysis, a series of linear, mediation, and moderation regressions were conducted.

Table 2: Correlation of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Attribute															
1. Actual-Ideal Gap	0.205	0.238	-												
2. AR-Actual Gap	0.217	0.261	.403**	-											
3. AR-Ideal Gap	0.217	0.26	.423**	.476**	-										
Appearance															
4. Actual-Ideal Gap	0.38	0.57	.307**	.131*	.414**	-									
5. AR-Actual Gap	0.464	0.63	.482**	.213**	.264**	.544**	-								
6. AR-Ideal Gap	0.42	0.54	.278**	.365**	.182**	.268**	.524**	-							
7. Present True Self	5.42	1.11	-.364**	-.178**	-.230**	-.373**	-.341**	-.230**	-						
8. Present Ideal Self	5.16	1.12	-.116*	-.074	-.272**	-.291**	-.230**	-.198**	.439**	-					
9. Using for Ideal/False Self-Presentation	5.35	0.87	-.119*	-.042	-.156**	-.171**	-.121*	-.203**	.709**	.586**	-				
10. Self-Concept Clarity	3.24	0.76	.051	.105	.166**	.118*	.097	.259**	-.481**	-.602**	-.705**	-			
11. SM and AR future use intention	5.36	0.97	-.138*	-.095	.116*	-.138*	-.154**	-.279**	.593**	.506**	.727**	-.570**	-		
12. Self-esteem	2.54	0.61	.200**	.231**	.222**	.109	.223**	.256**	-0.089	-.456**	-.096	.444**	-.107	-	
13. Mental wellbeing	3.95	0.58	-.281**	-.111	-.211**	-.311**	-.209**	-.132*	.669**	.343**	.645**	-.382**	.620**	.081	-

Note. N = 289. M = Mean; SD = Standard Deviation. *p <.05. **p < .001

HYPOTHESIS TESTING

To explore our research question and test the hypotheses, a series of linear, mediation, and moderation regression analyses were conducted in SPSS 29 and with PROCESS v4.2 (Hayes, 2017). The conceptual model guiding these analyses is depicted in Figure 1 with the results depicted in Figure 2. Hypotheses were tested sequentially using a standard linear regression model, as well as PROCESS Model 1 and Model 4 when applicable to assess both direct and indirect effects.

H1: Motivation to use AR beauty filters for ideal self-presentation will positively predict the use of AR beauty filters for ideal/false self-presentation:

A simple linear regression was conducted to test H1. The model was significant, $F(1, 287) = 149.73$, $p < .001$, accounting for 34.3% of the variance ($R^2 = .343$). Motivation to use AR beauty filters for ideal self-presentation was a strong positive predictor for using AR beauty filters for ideal/false self-presentation ($b = .455$, $\beta = .586$, $p < .001$). These results support H1 and align with prior theory suggestions that social media tools are used to bridge the gap between the actual and ideal self (Javornik et al., 2022; Michikyan et al., 2014).

H2A: Use of AR beauty filters for ideal/false self-presentation will negatively predict online/offline identity consistency:

To test H2A, a simple linear regression was first conducted with using AR beauty filters for ideal/false self-presentation as the predictor and self-concept clarity as the outcome variable. The model was significant and accounted for a significant amount of variance in self-concept clarity ($F(1, 287) = 283.02$, $p < .001$, $R^2 = .497$). As hypothesized, increased use of AR filters for idealized or false self-presentation significantly predicted decreased self-concept clarity ($b = -.615$, $\beta = -.705$, $p < .001$). These findings support H2A.

H2B: Decreased Online/Offline Identity Consistency from using AR beauty filters for ideal/false self-presentation will negatively predict mental wellbeing:

To test H2B, a linear regression was first conducted with self-concept clarity as the predictor and mental wellbeing as the outcome. The model was significant and accounted for a significant amount of variance in mental wellbeing ($F(1,287) = 48.99$, $p < .001$, $R^2 = .146$). Self-Concept clarity was a significant predictor of mental wellbeing ($b = -.291$, $\beta = -.382$, $p < .001$).

To further explore the relationship, a mediation analysis (PROCESS Model 4) was conducted. The model was set up to have AR beauty filters for ideal/false self-presentation as the predictor (X), self-concept clarity as the mediator (M), and mental wellbeing as the outcome (Y). The model was significant ($F(2, 286) = 106.29$, $p < .001$, $R2 = .426$) and consistent with H2A - using AR beauty filters for ideal/false self-presentation negatively predicted self-concept clarity ($b = -.615$, $se = .037$, $p < .001$, CI [-.690, -.543]). However, the indirect effect of using AR beauty filters for ideal/false self-presentation on mental wellbeing through self-concept clarity was not significant ($b = -.07$, CI [-.149, .011]) and the direct effect was positive and significant ($b = .496$, $SE = .042$, $p < .001$, CI [.4130, .5780]).

Contrary to the hypothesized direction, higher self-concept clarity predicted lower mental wellbeing. Additionally, the mediation analysis findings show the indirect pathway as not significant and the direct pathway from using AR beauty filters for ideal/false self-presentation to mental wellbeing was positive, opposite of the hypothesis. Taken together, these results do not support H2B.

H3A: Use of AR beauty filters for ideal/false self-presentation will positively predict actual-ideal self-discrepancy gaps:

H3A's prediction that using AR beauty filters for ideal/false self-presentation would increase actual-ideal self-discrepancy gaps was seemingly not supported following the correlation analysis which indicated a negative relationship between the two variables ($r = -.156^*$, $p = .008$). Suggesting that it is the opposite of the predicted relationship and using AR beauty filters for ideal/false self-presentation would decrease self-discrepancy gaps. A simple linear regression ($F(1, 287) = 4.15$, $p = .043$, $R2 = .014$) confirmed that using AR beauty filters

for ideal/false self-presentation weakly predicted reduced attribute-based actual-ideal self-discrepancy gaps ($b = -.033$, $\beta = -.119$, $p = .043$).

Given the unexpected direction of the effect with the linear regression performed and drawing on prior research that self-esteem moderates' appearance-related gaps (Javornik et al., 2021), PROCESS Model 1 (Hayes, 2017) tested self-esteem as a moderator. The overall model was statistically significant ($F(3, 285) = 8.66$, $p < .001$) and explained 8.36% of the variance in actual-ideal self-discrepancy ($R^2 = .0836$). The main effects for using AR filters for ideal/false self-presentation ($b = -0.2505$, $p = .0005$) and self-esteem ($b = -0.3934$, $p = .0077$) remained significant and negative, indicating that each independently lower the attribute-based actual-ideal self-discrepancy gap. However, a significant interaction between using AR filters for ideal/false self-presentation and self-esteem emerged ($b = 0.0852$, $p = .0014$) suggesting that the effect of AR use on self-discrepancy varied depending on participants' self-esteem.

Investigating the effects further showed that at low levels of self-esteem (e.g., self-esteem < 2.58, $\cong$ 65% of the sample), greater use of AR filters for ideal/false self-presentation significantly reduced the actual-ideal self-discrepancy gap ($b = -0.0802$, $p = .0004$). At moderate levels of self-esteem (e.g., 2.59 – 3.68, $\cong$ 27% of the sample), the relationship was nonsignificant. But at high levels of self-esteem (e.g., > 3.69, $\cong$ 8% of the sample), greater use of AR filters for ideal/false self-presentation significantly increased the actual-ideal self-discrepancy gap (see Table 3 for conditional effects). H3A was not supported overall by the initial linear regression. However, the moderation analysis provides partial and conditional support for H3A. While using AR beauty filters for ideal/false self-presentation generally reduced the actual-ideal self-discrepancy gap or had no significant effect for much of the sample (approximately 92%), it did significantly increase the discrepancy gap among those with very

high levels of self-esteem (approximately 8%). Consistent with Javornik et al.'s (2021) findings on actual-ideal appearance gaps, but necessary to investigate further.

Table 3: Conditional Effects for H3A at Different Levels of Self-Esteem

Effect	Estimate	SE	95% CI		p
			LL	UL	
Self-Esteem					
Low Levels					
1.667	-.1086	.0295	-.1667	-.0504	<.001**
2.00	-.0802	.0226	-.1246	-.0358	<.001**
2.333	-.0518	.0173	-.0859	-.0177	.0030*
2.5793	-.309	.0157	-.0617	.0	.05*
Moderate Levels					
2.6491	-.0249	.0157	-.0557	.0059	.1131
3.6316	.0588	.0310	-.0023	.1199	.0594
High Levels					
3.6903	.0638	.0324	.0	.1275	.05*
3.7544	.0692	.0339	.0025	.1359	.0420*
3.8772	.0797	.0368	.0073	.1521	.0312*
4.00	.0901	.0398	.0119	.1684	.0241*

Note. Total N = 289, lower-level N ≅ 65%, moderate level N ≅ 27%, high level N≅ 8%. CI = confidence intervals; LL = lower limit, UL = upper limit. $p < .001$ = **, $p \leq .05$ = *

H3B: Actual-ideal self-discrepancy gaps will negatively predict mental wellbeing:

Though H3A did not find support for using AR beauty filters for ideal/false self-presentation predicting increased self-discrepancy gaps, H3B tested whether higher self-discrepancy gaps, regardless of origin and inclusive of AR influenced gaps influenced mental wellbeing. To test H3B, several linear regressions were conducted. The initial model used the attribute-based actual-ideal discrepancy gap as the predictor variable and mental wellbeing as the outcome. This regression was statistically significant, $F(1, 287) = 24.57$, $p < .001$, and revealed a negative association between attribute-based actual-ideal discrepancy and mental wellbeing, b

= -.679, β = -.281, p < .001. A second linear regression was conducted using the appearance-based actual-ideal discrepancy gap as the predictor variable. Again, the model was significant, F (1, 287) = 30.65, p < .001. However, compared to the attribute-based discrepancy gap it was a stronger predictor of lower mental wellbeing (b = -.309, β = -.311, p < .001). These results suggest that individuals with greater gaps between their actual and ideal self-constructs reported lower overall mental wellbeing, consistent with prior research on self-discrepancy gaps and mental wellbeing (Strauman & Higgins, 1987).

To further explore the relationship between self-discrepancy gaps and mental wellbeing, specifically within the context of AR beauty filter-influenced gaps, four additional linear regressions were conducted. Mental wellbeing remained the constant outcome variable in each model while the predictor variable was changed to include a model for each AR-actual and AR-ideal attribute-based and the appearance-based discrepancy gaps. Except for the attribute-based AR-actual discrepancy gap, the models were significant and showed a consistent negative relationship with mental wellbeing (see Table 4). Together, these results offer strong support for H3B. They confirm that higher self-discrepancy between self-concepts is consistently associated with reduced mental wellbeing, consistent with self-discrepancy theory (Higgins, 1985). Further, the AR-related discrepancy gaps were significant predictors of lower mental wellbeing, suggesting that discrepancies introduced by filtered representations may independently impact mental wellbeing.

Table 4: Regression for Self-Discrepancy Gaps Predicting Mental Wellbeing

Measure	Coefficients		
	B	β	p
Attribute-Based			
Actual-Ideal Discrepancy Gap	-.679	-.281**	<.001
AR-Actual Discrepancy Gap	-.050	-.111	.061
AR-Ideal Discrepancy Gap	-.095	-.211**	<.001
Appearance-Based			
Actual-Ideal Discrepancy Gap	-.309	-.311**	<.001
AR-Actual Discrepancy Gap	-.227	-.209**	<.001
AR-Ideal Discrepancy Gap	-.123	-.132*	.025

Note. N = 289, significance (* <.05, ** <.001)

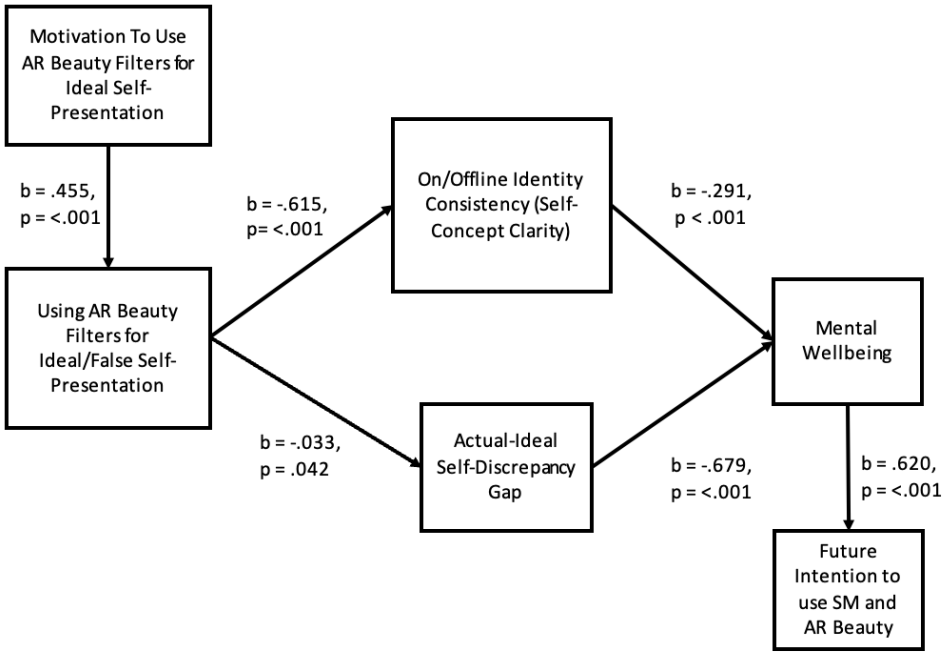
H4: Lower mental wellbeing will positively predict future use intention of social media and AR beauty filters:

To test H4, a linear regression was conducted with mental wellbeing as the predictor and future use intention of social media and AR beauty filters as the outcome. The model was statistically significant, $F(1, 287) = 179.25$, $p < .001$, explaining 38.4 % of the variance in future use intention ($R^2 = .384$). However, contrary to the hypothesis, results indicated a significant positive association between mental wellbeing and future use intention ($\beta = .620$, $p < .001$), showing that participants with higher levels of wellbeing reported greater intent to continue or increase their current levels of social media and AR beauty filter usage.

To assess whether mental wellbeing predicted future social media and AR beauty filter usage beyond the influence of the self-concept and discrepancy gap variables, a hierarchical regression was conducted. Self-concept clarity and both attribute-based and appearance-based

actual-ideal self-discrepancy gaps were entered as predictors. This model was significant, $F(3, 285) = 48.63$, $p < .001$, explaining 33.9% of the variance in future use intention ($R^2 = .339$). In step 2 mental wellbeing was added to the model, resulting in a significant increase in explained variance ($\Delta R^2 = .179$), with the final model accounting for 51.8% of the variance in future use intention, $F(4, 284) = 76.24$, $p < .001$. Self-concept clarity ($\beta = -.390$, $p < .001$) and mental wellbeing ($\beta = .490$, $p < .001$) emerged as significant predictors, while both discrepancy gap variables were non-significant. The analysis did not provide support for H4. While mental wellbeing did significantly predict AR filter use intention, the relationship was in the opposite direction than hypothesized. Rather than individuals with lower wellbeing turning to social media and AR beauty filters as a compensatory coping strategy, the results suggest that higher mental wellbeing may lead to the continued use of these tools. The unexpected direction is addressed further in the discussion section, where possible explanations are explored.

Figure 2: Results of Hypothesis Testing



DISCUSSION

The present study aimed to investigate the research question: How do motivations for ideal self-presentation influence AR beauty filter use and how does this use affect online-offline identity consistency, actual-ideal self-discrepancy gaps, mental wellbeing, and future intentions to use social media and AR beauty filters? Five of the seven hypotheses received full or partial support.

SUMMARY OF KEY FINDINGS

H1: Supported. Motivation to use AR beauty filters for ideal self-presentation significantly and positively predicted greater use of the filters for ideal/false self-presentation. This suggests that individuals driven to present an ideal self are indeed more likely to utilize the affordance of AR beauty filters to achieve this self-presentation. This is consistent with findings from Javornik et al., 2021.

H2A: Supported. Increased use of AR beauty filters for ideal/false self-presentation strongly and negatively predicted online/offline identity consistency (self-concept clarity). This is consistent with research showing that ideal/false self-presentation through features like profile customization can decrease consistency between online and offline selves (Manago et al., 2008; Michikyan et al., 2014). Confirming that AR beauty filters status as both a tool and risk for self-presentation

H2B: Not supported. While self-concept clarity significantly predicted mental wellbeing, the direction of the relationship was opposite of what was hypothesized. Inconsistent with prior research, higher self-concept clarity significantly predicted lower mental wellbeing (Lin et al., 2018). Additionally, the indirect path was not significant and instead a significant positive direct effect emerged between using AR beauty filters for ideal/false self-presentation and mental wellbeing, suggesting a complex relationship.

H3A: Partially and Conditionally Supported. The initial linear regression showed a negative relationship. However, a follow-up moderation analysis revealed the relationship between using AR beauty filters for ideal/false self-presentation and the actual-ideal self-discrepancy gap is contingent on self-esteem. Consistent with Javornik et al.'s (2021) findings, those with low self-esteem had greater reduction of the discrepancy while those with very high self-esteem saw a significant increase in the gap.

H3B: Strongly supported. Higher self-discrepancy gaps (attribute and appearance-based) consistently predicted lower mental wellbeing. This holds true across various types of self-discrepancy including those influenced by AR filters, reinforcing the negative impact identity inconsistencies have on mental wellbeing.

H4: Not supported. Lower mental wellbeing was hypothesized to predict high future use intention of social media and AR beauty filters, but the results indicated the opposite – higher mental wellbeing positively predicted greater use intention.

The hypotheses partially support a hypothetical feedback loop while receiving two important inflections. First, using AR beauty filters for ideal/false self-presentation can temporarily mask rather than magnify actual-ideal self-discrepancy gaps, particularly for low self-esteem users. Second, positive wellbeing, not distress may suggest the ongoing engagement that leads to the cyclical relationship.

THEORETICAL IMPLIACATIONS

The findings of this study offer several theoretical implications that advance our understanding of how AR beauty filters intersect with self-concept, self-discrepancy, mental wellbeing, and digital engagement.

Online and Offline Identity

The results from H1 and H2A confirm that motivations to present an ideal self directly translate into the use of AR beauty filters for ideal/false self-presentation. Further, the act of idealized presentation through AR beauty filters significantly decreases online/offline identity consistency by lowering self-concept clarity. This aligns with previous research suggesting that crafting a "false self" online can lead to a disconnect from one's offline identity, challenging the coherence of the self-concept (Manago et al., 2008; Michikyan et al., 2014). The strong negative relationship presents a strong consequence of using AR beauty filters.

However, findings for H2B add nuance to the understanding of the relationship. Although lower self-concept clarity significantly predicted mental wellbeing, the direction was opposite of what was hypothesized – individuals with higher self-concept clarity reported lower mental wellbeing. The unexpected result raises questions about how self-concept clarity functions in AR-mediated contexts, perhaps suggesting that certain forms of self-concept clarity (e.g., idealized) may at times be detrimental. Additionally, the mediation model did not support an indirect effect from AR filter use to wellbeing via self-concept clarity. In contrast, AR beauty filter use for ideal/false self-presentation positively predicted mental wellbeing.

While decreased self-concept clarity is generally expected to predict lower mental wellbeing the combined results of H2A and H2B suggest a more complex relationship (Lin et al., 2018). The use of AR filters for ideal/false self-presentation may reduce identity coherence but simultaneously offer a short-term boost to mental wellbeing – potentially through increased self-esteem or decreased self-discrepancy gaps (H3A). This complex relationship warrants further exploration to better understand the short and long-term impacts of AR filter use for ideal/false self-presentation on self-concept clarity and mental wellbeing.

Extending Self-Discrepancy Theory

The conditional support for H3A, moderated by self-esteem, provides insights for self-discrepancy theory in the digital age. The initial expectation, consistent with general SDT principles and some prior research, was that using AR beauty filters would increase the actual-ideal self-discrepancy gap (Higgins, 1987; Javornik et al., 2021, 2022). However, mirroring the findings by Javornik et al., (2021), we found that for a significant portion of the sample (low self-esteem), AR beauty filter use reduced the actual-ideal discrepancy gap. Suggesting that for those with low self-esteem these filters may be a valuable tool to decrease the gap between their actual-ideal by bringing their faraway idealized appearance closer to reality. Considering the role social comparison plays in the internalization of unattainable beauty standards which are linked to lower self-esteem, the beauty filters capability of giving the user the ability to meet those standards may be one of the short-term benefits impacting the relationship of H2B (Javornik et al., 2021, 2022; Meier et al., 2021; Tiggermann & Anderberg, 2020). However, for those with high self-esteem, using AR beauty filters for ideal/false self-presentation did increase the actual-ideal gap. Implying that for those already confident in their actual selves, the highly augmented virtual self creates a greater perceived gap, by challenging their self-concept. The dual path relationship presents a complex relationship that warrants further research.

The Cyclical Relationship

The unexpected direction of H4's results present insights into the cyclical nature of social media and AR beauty filter engagement for ideal self-presentation. The hypothesis that lower mental wellbeing would drive greater future use was contradicted, instead, higher mental wellbeing predicted greater future use intention. This pattern aligns with uses-and-gratifications logic. Individuals already feeling good may treat AR beauty enhancements as playful self-

expression rather than an escape from their actual self. This is a powerful and positive feedback loop in its own way: better mental wellbeing, leads to more intention to use, fueling motivation and engagement with idealized self-presentation through AR beauty filters. However, the support of H2A and H2B and partial, conditional support of H3A suggest that there may be long-term consequences hiding behind the short-term gain, especially if the positive loop is based on an unsustainable or "false" self.

PRACTICAL IMPLICATIONS

Platform Design & Digital-Wellbeing Tools

The link between AR beauty filter use for ideal self-presentation and decreased self-concept clarity should be a concern. This kind of disconnect has been linked to lower mental wellbeing and real-world social isolation (Manago et al., 2008; Michikyan et al., 2014,). Platforms could explore design features that encourage "true" self-presentation or offer more tools for creative expression that don't rely on altering physical appearances. The moderation effect of self-esteem (H3A) suggests that a "standard" approach to AR filter warnings or intervention may not be effective.

Mental Health Professionals and Educators

The consistent negative relationship between self-discrepancy gaps and mental wellbeing reaffirms the importance of addressing identity related issues. As AR-influenced gaps are showing the same negative relationship with mental wellbeing, the importance of addressing these issues must be rooted in both mental health interventions and digital literacy. Digital Literacy programs should incorporate more nuanced teachings into their education. Offering insights into how individuals engage in self-presentation online may break down some forms internalized unattainable beauty ideals stemming from social comparison with AR beauty

enhanced others. While mental health professionals could look at was to encourage healthier self-presentation by fostering realist self-perceptions, promoting self-acceptance, and discussing the psychological impact of idealized online self-presentation.

Policy

Given the strong impact of appearances related gaps on wellbeing, regulators could require clearer labelling of appearance altering filters. Similar policy suggestions have been discussed in the U.K. as the "Digitally Altered Body Images Bill" calls for advisory labels on advertisements featuring images where influencers have digitally altered their bodies.

FUTURE DIRECTIONS

Future research should employ longitudinal designs to establish causal relationships and track the long-term effects of AR beauty filter use on identity consistency, self-discrepancy, and mental wellbeing. This could be particularly insightful for understanding the effects of the potential cyclical loop identified in H4. Given the complex and nuanced findings, particularly for H2B and H3A, it may be beneficial for future research to prioritize qualitative data. This could provide richer insights into users' experiences, motivations, and perceptions of AR beauty filters as well as how they navigate identity between online and offline spaces. One of the key limitations of this study was the non-diverse sample. Future research should prioritize a more diverse sample to gain deeper and more meaningful insights.

LIMITATIONS

Despite these contributions, the present research is subject to several limitations that warrant consideration. The cross-sectional nature of the data limits our ability to infer causality. While our hypotheses suggest directional relationships, longitudinal studies are needed to establish definitive causal pathways. While we found that AR use predicts lower self-concept clarity, it's also possible that individuals with naturally lower self-concept clarity are more drawn to AR beauty filters. Additionally, the data was collected via self-report questionnaires which could inflate some of the observed associations. Also of significance, the sample obtained for this study lacks diversity and representation. The sample was predominately White/Caucasian (97.6%) which limits the generalizability of the findings.

The measurements used in are limited in several areas. First, several key scales required item deletions to achieve acceptable reliabilities which could affect comparability with earlier studies. Second, we operationalized online/offline identity consistency through self-concept clarity. While theoretically justified and supported by prior research, other facets of identity consistency could be more prominent and should be explored (Manago et al., 2008; Michikyan et al., 2014). Finally, the measure of "using AR beauty filters for ideal/false self-presentation" was an adapted scale that combined several subscales. While it demonstrated strong reliability and loaded onto a single factor, the specific type of AR beauty filter or exactly how they are being used could not be deeply explored. To that point, the survey collapsed AR beauty filter use into social media as a whole, the effects may differ depending on the platform (e.g., TikTok, Instagram, Snapchat).

CONCLUSION

This study provides a deep exploration of the psychological implications of AR beauty filter use for ideal self-presentation. Through the lens of Self-Discrepancy Theory, Self-Presentation Theory, and Social Comparison Theory, we have gained critical insights into how AR beauty filters contribute to identity inconsistency, influence self-discrepancy gaps. Further, these insights add deeper understanding to how these filters are impacting mental wellbeing and continued engagement. The findings highlight complex conditional effects and unexpected positive relationships that underscore the need for a sophisticated understanding of AR beauty filter use for digital self-enhancement. The insights gained will contribute to the evolving discourse on digital identity in the age of XR technology and offer directions for future research to build toward healthier online environments.

BIBLIOGRAPHY

Bailey, E. R., Matz, S. C., Youyou, W., & Iyengar, S. S. (2020). Authentic self-expression on social media is associated with greater subjective well-being. *Nature Communications*, *11*(1), 4889. https://doi.org/10.1038/s41467-020-18539-w

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, *70*(1), 141–156. https://doi.org/10.1037/0022-3514.70.1.141

Castillo-Hermosilla, M. P., Tayebi-Jazayeri, H., & Williams, V. N. (2024). Breaking the Filtered Lens: A Feminist Examination of Beauty Ideals in Augmented Reality Filters. In M. Ziosi, G. Sartor, J. M. Cunha, A. Trotta, & P. Wicke (Eds.), *AI for People, Democratizing AI* (pp. 95–101). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-71304-0_8

Chae, J. (2017). Virtual makeover: Selfie-taking and social media use increase selfie-editing frequency through social comparison. *Computers in Human Behavior*, *66*, 370–376. https://doi.org/10.1016/j.chb.2016.10.007

Chae, J. (2018). Explaining Females' Envy Toward Social Media Influencers. *Media Psychology*, *21*(2), 246–262. https://doi.org/10.1080/15213269.2017.1328312

Cohen, R., Newton-John, T., & Slater, A. (2018). 'Selfie'-objectification: The role of selfies in self-objectification and disordered eating in young women. *Computers in Human Behavior*, *79*, 68–74. https://doi.org/10.1016/j.chb.2017.10.027

Davison, C. (2012). Presentation of digital self in everyday life: Towards a theory of digital identity [PhD Thesis, RMIT University]. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=62b15ee50dc8255f732e2c54d56b437dc0fbb8e9

Digitally Altered Body Images Bill, 227, 2021–2022, 58/2 (2022).

Dijkslag, I. R., Block Santos, L., Irene, G., & Ketelaar, P. (2024). To beautify or uglify! The effects of augmented reality face filters on body satisfaction moderated by self-esteem and self-identification. *Computers in Human Behavior*, *159*, 108343. https://doi.org/10.1016/j.chb.2024.108343

Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Festinger, L. (1957). *A theory of cognitive dissonance* (pp. xi, 291). Stanford University Press.

Fishbein, M., & Ajzen, I. (2010). *Predicting and Changing Behavior: The Reasoned Action Approach*. Psychology Press. https://doi.org/10.4324/9780203838020

Gabarnet, A., Feixas, G., & Montesano, A. (2023). What Is the Psychological Role of the Virtual Self in Online Worlds? A Scoping Review. *Multimodal Technologies and Interaction*, *7*(12), 109. https://doi.org/10.3390/mti7120109

Goffman, E. (1959). *The Presentation of Self in Everyday Life* (Repr). Penguin Books.

Hanley, A. W., & Garland, E. L. (2017). Clarity of mind: Structural equation modeling of associations between dispositional mindfulness, self-concept clarity and psychological well-being. Personality and Individual Differences, 106, 334–339. https://doi.org/10.1016/j.paid.2016.10.028

Harriger, J. A., Evans, J. A., Thompson, J. K., & Tylka, T. L. (2022). The dangers of the rabbit hole: Reflections on social media as a portal into a distorted world of edited bodies and eating disorder risk and the role of algorithms. Body Image, 41, 292–297. https://doi.org/10.1016/j.bodyim.2022.03.007

Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis,

second edition: A regression-based approach. Guilford Press.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*(3), 319–340. https://doi.org/10.1037/0033-295X.94.3.319

Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-Concept Discrepancy Theory: A Psychological Model for Distinguishing among Different Aspects of Depression and Anxiety. *Social Cognition*, *3*(1), 51–76. https://doi.org/10.1521/soco.1985.3.1.51

Javornik, A., Marder, B., Barhorst, J. B., McLean, G., Rogers, Y., Marshall, P., & Warlop, L. (2022). 'What lies behind the filter?' Uncovering the motivations for using augmented reality (AR) face filters on social media and their effect on well-being. *Computers in Human Behavior*, *128*, 107126. https://doi.org/10.1016/j.chb.2021.107126

Javornik, A., Marder, B., Pizzetti, M., & Warlop, L. (2021). Augmented self—The effects of virtual face augmentation on consumers' self-concept. *Journal of Business Research*, *130*, 170–187. https://doi.org/10.1016/j.jbusres.2021.03.026

Lin, X., Su, W., & Potenza, M. N. (2018). Development of an Online and Offline Integration Hypothesis for Healthy Internet Use: Theory and Preliminary Evidence. Frontiers in Psychology, 9, 492. https://doi.org/10.3389/fpsyg.2018.00492

Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, *29*(6), 446–458. https://doi.org/10.1016/j.appdev.2008.07.001

Mason, T. B., Smith, K. E., Engwall, A., Lass, A., Mead, M., Sorby, M., Bjorlie, K., Strauman, T. J., & Wonderlich, S. (2019). Self-discrepancy theory as a transdiagnostic framework: A meta-analysis of self-discrepancy and psychopathology. *Psychological Bulletin*, *145*(4), 372–389. https://doi.org/10.1037/bul0000186

Michikyan, M., Dennis, J., & Subrahmanyam, K. (2014). Can You Guess Who I Am? Real, Ideal, and False Self-Presentation on Facebook Among Emerging Adults. *Emerging Adulthood*, *3*(1), 55–64. https://doi.org/10.1177/2167696814532442

Nyst, A. (2023, July 14). *134 Social Media Statistics You Need To Know For 2023*. Search Engine Journal. https://www.searchenginejournal.com/social-media-statistics/480507/

Pedalino, F., & Camerini, A.-L. (2022). Instagram Use and Body Dissatisfaction: The Mediating Role of Upward Social Comparison with Peers and Influencers among Young Females. International Journal of Environmental Research and Public Health, 19(3), 1543. https://doi.org/10.3390/ijerph19031543

Rosenberg, M. (1965). *Rosenberg Self-Esteem Scale*. https://doi.org/10.1037/t01038-000

Strauman, T. J., & Higgins, E. T. (1988). Self-Discrepancies as Predictors of Vulnerability to Distinct Syndromes of Chronic Emotional Distress. *Journal of Personality*, *56*(4), 685–707. https://doi.org/10.1111/j.1467-6494.1988.tb00472.x

Sundar, S. S. (2015). *The handbook of the psychology of communication technology*. John Wiley & Sons. https://doi.org/10.1002/9781118426456

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, *5*(1), 63. https://doi.org/10.1186/1477-7525-5-63

Tiggemann, M., & Anderberg, I. (2020). Social media is not real: The effect of 'Instagram vs reality' images on women's social comparison and body image. *New Media & Society*, *22*(12), 2183–2199. https://doi.org/10.1177/1461444819888720

Trub, L. (2017). A portrait of the self in the digital age: Attachment, splitting, and self-concealment in online and offline self-presentation. Psychoanalytic Psychology, 34(1), 78–86. https://doi.org/10.1037/pap0000123

Yang, C. (2016). Instagram Use, Loneliness, and Social Comparison Orientation: Interact and Browse on Social Media, But Don't Compare. Cyberpsychology, Behavior, and Social Networking. https://doi.org/10.1089/cyber.2016.0201

Yim, M. Y.-C., & Park, S.-Y. (2019). "I am not satisfied with my body, so I like augmented reality (AR)": Consumer responses to AR-based product presentations. *Journal of Business Research*, *100*, 581–589. https://doi.org/10.1016/j.jbusres.2018.10.041

APPENDIX I

FULL LIST OF MEASURES

Consent

Participants were provided with a summary of the study, the purpose of the research, the estimated time of completion, the benefit for completion ($2), and informed about privacy, confidentiality, and the right to participate, say no, or withdraw.

- I Agree
- I Disagree

Qualifier

Participants were provided with the following definition of AR beauty filters:

The following survey will deal with Augmented Reality (AR) beauty filters. AR beauty filters are filters that alter your appearance in real-time by applying virtual overlays directly to your face through your camera view. These filters are most commonly found on social media platforms.

AR beauty filter modifications can range from subtle enhancements to more dramatic changes, including but not limited to: enhancing facial features, smoothing skin, adjusting facial proportions, and applying makeup effects.

Using these filters includes trying them out and/or privately sharing or publicly posting content using such filters.

1. Have you used AR beauty filters on social media?
    a. Yes
    b. No

Selecting “No” redirected participants to the end of the survey.

2. How often do you use AR beauty filters on social media
    a. Daily
    b. 4-6 times a week
    c. 2-3 times a week
    d. Once a week
    e. Never

Selecting “Never” redirected participants to the end of the survey.

3. When did you start using AR beauty filters on social media?
    a. Before I was a teenager (12 or younger)
    b. As a teenager (13-17)
    c. As a young adult (18-24)
    d. As an adult (25+)
    e. I don’t remember

Motivations for Using AR Beauty Filters: Adapted from Javornik et al., 2021.

Ideal Self-Presentation Motivation – α =.674, item 1 removed – α =.727

1 = Strongly Disagree – 7 = Strongly Agree

Please read each statement carefully and indicate your level of agreement or disagreement.

I use AR beauty filters to:

True Self-Presentation Motivation – α =.880

1. To present my real self
2. To communicate what my real life is about
3. To express my true self.
4. To show who I really am.
5. To show the real me that others don't necessarily know much about.

Ideal Self-Presentation Motivation – α =.674, item 1 removed – α =.727

1. To improve the way I present myself.
2. To look more as how I would really like to look.
3. To hide some of my negative emotions.
4. To cover up my negative mood
5. To fake a positive image.

Transformed Self-Presentation – α =.773 – excluded from final analysis

1. To experiment with my appearance.
2. To try out different looks.
3. To create a different version of who I am.
4. To transform me into someone else.
5. To modify my appearance in a new way.

Using AR Beauty Filters for Self-Presentation: Adapted from Michikyan et al., 2014

1 = Strongly Disagree – 7 = Strongly Agree

Please indicate your level of agreement with each statement regarding your use of AR beauty filters on social media.

False-Self Deception – α =.777

1. I sometimes try to be someone other than my true self when using AR filters.
2. I look like a completely different person when I use AR filters.
3. I use AR filters to present an image of myself that is not how I actually look.
4. Sometimes I feel like I keep up a front when I use AR filters.

Real Self – α =.762

1. I have a good sense of who I am, and how I use AR filters reflects that.
2. Who I am when I use AR filters is who I am offline.
3. I have a clear sense of what I want in life, and using AR filters helps me express my views and beliefs.
4. The way I present myself when using AR filters is how I am in real life.

False-Self Exploration – α =.677

1. AR filters let me try out different versions of myself in ways I can't in real life.

2. I change the AR filters I use to show different aspects of my identity.
3. I feel like I have many sides to myself, and AR filters help me express them.

False-Self Impress/Compare – α =.686

1. I compare myself to others when using AR filters.
2. I try to impress others with the way I present myself using AR filters.
3. I only use AR filters that I know will make me look more attractive to others.

Ideal Self – α =.625

1. I use AR filters to show aspects of who I want to be.
2. Who I want to be is reflected in the type of AR beauty filter I use (e.g., feature enhancing, smoothing skin, adjusting facial proportions).

Self-Discrepancy Actual vs. Ideal Appearance (Javornik et al., 2021).

1 = Not at all Accurate – 7 = Very Accurate

Thinking about your unfiltered self, please read each statement and indicate your level of agreement or disagreement.

Actual Appearance – α =.854

1. I am extremely attractive
2. I am extremely beautiful
3. I am extremely good-looking
4. I am extremely pretty.

Ideal Appearance – α =.785

1. Ideally, I would like to be extremely attractive.
2. Ideally, I would like to be extremely beautiful.
3. Ideally, I would like to be extremely good-looking.
4. Ideally, I would like to be extremely pretty.

Self-Discrepancy Attribute-Based: Adapted from Higgins et al., 1985

Participants were presented with the following instructions:

In the following section, you will be asked to list **up to** 5 attributes for each of the following: the type of person you think you **actually are**, would **ideally** like to be, and feel you **ought** to be. These attributes can be positive or negative. To inspire you, if necessary, here are some examples of possible attributes, you are not limited to this list—please feel free to use your own words but limit yourself to one word per line:
Friendly | Confident | Responsible | Honest | Creative
Ambitious | Organized | Kind | Patient | Independent
Loyal | Successful | Helpful | Outgoing | Anxious
Calm | Respectful | Shy | Assertive | Compassionate

1. Actual self: Your beliefs concerning the attributes you think you actually possess, both good and bad.
2. Ideal self: Your beliefs concerning the attributes you would like ideally to possess; your ultimate goals for yourself.

3. Ought self: Your beliefs concerning the attributes you believe you should or ought to possess; your normative rules or prescriptions for yourself.

Following this, participants rated all attributes they listed for each section 1 = Not well at all – 5 = Extremely Well.

1. How well do these traits describe your actual self? – **α =.873**
2. How well do these traits describe your ideal self? – **α =.848**
3. How well do these traits describe you ought self? – **α =.857**
4. How well do these traits describe your AR beauty filtered self? – **α =.890**

Online-Offline Identity Consistency (Self-Concept Clarity) (Campbell et al., 1986) – α =.776

1 = Strongly Disagree – 7 = Strongly Agree

When responding to the following items, think about your experience over the past 2 weeks particularly in relation to your use of AR beauty filters on social media.

Please indicate how much you agree or disagree with the following statements:

1. My beliefs about who I am online vs. offline often conflict with one another.
2. On one day, I might feel one way about my online self, and on another day, I might feel differently.
3. I spend a lot of time wondering about whether my online appearance reflects who I really am.
4. Sometimes I feel that my filtered appearance does not represent my true self.
5. When I think about how I present myself online and offline, I'm not sure which one reflects the real me.
6. I seldom experience conflict between my online and offline identity.
7. Sometimes I think I understand how others see me online better than I understand my own self-concept.
8. My beliefs about who I am in digital spaces seem to change frequently.
9. If I were asked to describe myself online versus offline, my descriptions might be very different.
10. Even if I wanted to, I don't think I could explain the differences between my online and offline self.
11. In general, I have a clear sense of who I am, regardless of how I present myself online.
12. It is often hard for me to make decisions about my online presence because I don't really know which version of myself I want to present.

Appearance AR Filtered Self (Javornik et al., 2021) – α =.814

1 = Not at all Accurate – 7 = Very Accurate

Thinking about your AR beauty filtered self, please read each statement carefully indicate your level of agreement or disagreement.

My AR filtered self is:

1. Extremely attractive
2. Extremely beautiful

3. Extremely good-looking
4. Extremely pretty

Social Media and AR Beauty Filter Future Use Intention (Fishbein & Ajzen, 2010) – α =.214, items 3 & 6 removed, α =.772. * = reverse scored

How often do you use the following social media platforms? *(Never - 6+ times daily).*

1. TikTok
2. Snapchat
3. Facebook
4. Instagram
5. Other

Please indicate how much you agree or disagree with the following statements regarding your future use of social media *(1 = Strongly Disagree – 7 = Strongly Agree***).**

1. I intend to maintain my current level of social media use over the next 3 months.
2. I think I will use social media frequently over the next 3 months.
3. I plan to reduce the amount of time I spend on social media over the next 3 months.*
4. I will likely spend more time on social media over the next 3 months.
5. I intend to continue using AR filters when posting on social media over the next 3 months.
6. I plan to stop using AR filters on social media over the next 3 months.*

Mental Wellbeing

Self-Worth (Luhtanen et al., 2013) * = item reverse scored. α =.210, not reverse scored, α =.772.

1 = Strongly Disagree – 5 = Strongly Agree

For the following questions, please think about your experiences using AR filters and indicate how much you agree or disagree with the statements:

1. I don't care what other people think of me when I use AR filters.
2. What others think of me when I use AR filters has no effect on what I think about myself.
3. I can't respect myself if others don't respect me when I use AR beauty filters
4. When I think I look attractive with AR filters, I feel good about myself
5. My self-esteem is influenced by how attractive I think my face or facial features are, especially when using AR filters.
6. My sense of self-worth suffers whenever I think I don't look good in AR filters.
7. Using AR filters sometimes makes me feel less confident about my natural appearance
8. I feel a sense of pressure to use AR filters to look more attractive

Self-Esteem (Rosenberg, 1979) – * = item reverse scored. α =.210, items 4, 7, 8, and 10 removed, α =.772.

1 = Strongly Disagree – 4 = Strongly Agree

For the following questions, please reflect on your experiences with and without AR filters over the last two weeks. Please record the answer that best describes your experience:

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all. *
3. I feel that I have a number of good qualities. *
4. I am able to do things as well as most other people.

5. I feel I do not have much to be proud of.
6. I certainly feel useless at times. *
7. I feel that I'm a person of worth.
8. I wish I could have more respect for myself. *
9. All in all, I am inclined to think that I am a failure. *
10. I take a positive attitude toward myself.

Warwick-Edinburgh Mental Wellbeing (WEMWBS; Tennant et al., 2007) – α =.888

For the following questions, please reflect on your experiences with and without AR filters over the last two weeks. Please record the answer that best describes your experience:

1 = None of the time – 5 = All of the time

1. I've been feeling optimistic about the future.
2. I've been feeling useful.
3. I've been feeling relaxed.
4. I've been feeling interested in other people.
5. I've had energy to spare.
6. I've been dealing with problems well.
7. I've been thinking clearly.
8. I've been feeling good about myself.
9. I've been feeling close to other people.
10. I've been feeling confident.
11. I've been able to make up my own mind about things.
12. I've been feeling loved.
13. I've been interested in new things.
14. I've been feeling cheerful.

Demographics

1. Choose one or more races that you consider yourself to be
   - White or Caucasian
   - Black or African American
   - American Indian/Native American or Alaska Native
   - Asian
   - Native Hawaiian or Other Pacific Islander
   - Other
   - Prefer not to say
2. What is the highest level of education you have completed?
   - Some high school or less
   - High school diploma or GED
   - Some college, but no degree
   - Associates or technical degree
   - Bachelor's degree
   - Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)

- Prefer not to say

3. What was your total household income before taxes during the past 12 months?
   - Less than $25,000
   - $25,000-$49,999
   - $50,000-$74,999
   - $75,000-$99,999
   - $100,000-$149,999
   - $150,000 or more
   - Prefer not to say
4. How old are you?
   - Under 18
   - 18-24 years old
   - 25-34 years old
   - 35-44 years old
   - 45-54 years old
   - 55-64 years old
   - 65+ years old
5. How do you describe yourself?
   - Male
   - Female
   - Non-binary / third gender
   - Prefer to self-describe
   - Prefer not to say
6. What best describes your employment status over the last three months?
   - Working full-time
   - Working part-time
   - Unemployed and looking for work
   - A homemaker or stay-at-home parent
   - Student
   - Retired
   - Other
7. Did you vote in the last election?
   - Yes
   - No
8. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else?
   - Republican
   - Democrat
   - Independent
   - Other
   - No preference

APPENDIX II

RELIABILITY OF MODIFIED MEASURES

1. Ideal Self-Presentation Motivation (ISPM)

Table 5: ISPM Unmodified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ISPM_1	20.61	20.035	0.19	0.727
ISPM_2	20.52	19.106	0.323	0.683
ISPM_3	21.08	14.119	0.602	0.562
ISPM_4	21.05	13.654	0.626	0.548
ISPM_5	21.35	14.382	0.489	0.619

Reliability Statistics

Cronbach's Alpha	N of Items
0.688	5

Table 6: ISPM Modified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ISPM_2	14.98	16.789	0.213	0.799
ISPM_3	15.54	10.909	0.653	0.578
ISPM_4	15.51	10.532	0.672	0.564
ISPM_5	15.8	10.958	0.55	0.647

Reliability Statistics

Cronbach's Alpha	N of Items
0.727	4

2. **Using AR Beauty Filters for Self-Presentation; False Self Deception (e.g., falsedeception_1), Exploration (e.g., false_explore_1), Impress and Compare (e.g., false_IC_1), and Ideal (e.g., ideal_use_1).**

Table 7: Using AR for Self-Presentation Unmodified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
falsedeception_1	59.04	93.112	0.613	0.891
falsedeception_2	58.85	91.598	0.638	0.89
falsedeception_3	58.76	92.746	0.572	0.893
falsedeception_4	58.67	94.308	0.638	0.89
false_explore_1	58.96	93.482	0.58	0.893
false_explore_2	58.8	92.637	0.649	0.889
false_explore_3	58.58	92.245	0.639	0.89
false_IC_1	58.9	93.11	0.597	0.892
false_IC_2	58.67	93.198	0.638	0.89
false_IC_3	58.6	91.678	0.644	0.889
ideal_use_1	58.73	95.046	0.583	0.893
ideal_use_2	58.58	94.444	0.621	0.891

Reliability Statistics

Cronbach's Alpha	N of Items
0.899	12

Table 8: Component Matrix

	Component 1
false_explore_2	0.721
false_IC_3	0.716
false_explore_3	0.712
false_IC_2	0.711
falsedeception_4	0.71
falsedeception_2	0.708
ideal_use_2	0.696
falsedeception_1	0.679
false_IC_1	0.668
ideal_use_1	0.655
false_explore_1	0.654
falsedeception_3	0.644

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 9: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.715	47.624	47.624	5.715	47.624	47.624
2	0.967	8.057	55.681			
3	0.932	7.768	63.448			
4	0.732	6.097	69.546			
5	0.603	5.027	74.573			
6	0.589	4.909	79.482			
7	0.504	4.2	83.682			
8	0.497	4.141	87.824			
9	0.413	3.442	91.265			
10	0.377	3.143	94.408			
11	0.35	2.914	97.322			
12	0.321	2.678	100			

Extraction Method: Principal Component Analysis.

3. Social Media and AR Beauty Filter Future Use Intention

Table 10: Future Use Intention Unmodified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
futureuse_1	22.451	11.512	0.314	0.032
futureuse_2	22.2832	11.593	0.2	0.095
futureuse_3_rev	24.7063	13.247	-0.058	0.32
futureuse_4	22.3566	12.897	0.065	0.203
futureuse_5	22.3322	11.24	0.293	0.031
futureuse_6_rev	24.4545	12.838	-0.087	0.379

Reliability Statistics

Cronbach's Alpha	N of Items
0.214	6

Table 11: Future Use Intention Modified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SM_futureuse_1	16.19	9.974	0.523	0.298	0.744
SM_futureuse_2	16.02	8.332	0.632	0.421	0.686
SM_futureuse_4	16.1	8.923	0.565	0.359	0.723
SM_futureuse_5	16.07	9.11	0.582	0.359	0.714

Reliability Statistics

Cronbach's Alpha	N of Items
0.772	4

4. Self-Esteem

Table 12: Self-Esteem Unmodified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
selfesteem_1	23.6618	15.429	0.3	0.631
selfesteem_2_rev	24.8036	12.304	0.582	0.557
selfesteem_3	23.6836	15.845	0.231	0.642
selfesteem_4	23.5927	16.585	0.089	0.665
selfesteem_5_rev	24.5709	12.947	0.481	0.585
selfesteem_6_rev	24.6618	12.466	0.542	0.568
selfesteem_7	23.6618	16.093	0.172	0.652
selfesteem_8_rev	25.1345	17.431	-0.062	0.69
selfesteem_9_rev	24.5964	12.877	0.518	0.576
selfesteem_10	23.52	16.024	0.183	0.65

Reliability Statistics

Cronbach's Alpha	N of Items
0.651	10

Table 13: Self-Esteem Modified Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
selfesteem_1	12.0285	12.199	0.215	0.77
selfesteem_2_rev	13.1815	8.628	0.67	0.653
selfesteem_3	12.0534	12.594	0.135	0.784
selfesteem_5_rev	12.9502	8.969	0.603	0.676
selfesteem_6_rev	13.0356	8.706	0.642	0.662
selfesteem_9_rev	12.9786	9.057	0.614	0.673

Reliability Statistics

Cronbach's Alpha	N of Items
0.748	6