RedFame

Studies in Media and Communication
Vol. 12, No. 1; March 2024
ISSN: 2325-8071 E-ISSN: 2325-808X
Published by Redfame Publishing
URL: http://smc.redfame.com

To Explore the Influence of AR-Filtered Selfies on Impression Management in Users' Intrapersonal Communication Under Computer-Mediated Communication (CMC)

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Received: November 8, 2023 Accepted: December 22, 2023 Online Published: January 7, 2024

doi:10.11114/smc.v12i1.6575 URL: https://doi.org/10.11114/smc.v12i1.6575

Abstract

Selfies are increasingly being shared on social media. On the basis of selfies, traditional beauty filters only finish tasks like whitening and face-lifting. However, with the introduction of augmented reality technology into selfie filters, more and more virtual impressions are presented, causing new influences on social media.This paper explores the influence of AR filters on the impressions management of selfie under Computer Mediad Communication (CMC) from the perspective of Goffman's (1959) dramaturgical theory. This study adopts a qualitative phenomenological research paradigm. Data were collected using document analysis, focus groups and in-depth interviews at two universities in Pingdingshan, China. Research has found that the media characteristics of AR filter selfies allow users to have a rich ability to choose and present their impressions, prompting users to project multiple impressions of themselves on social media. Let users be willing to communicate intrapersonally with AR selfies, thereby achieving self-improvement. This article expands the application scope of new media AR filters of dramaturgical theory in CMC. It also provides a basic understanding of the further communication influence of AR selfies on senders and receivers in CMC. This can provide relevant reference for the government to formulate media policies and manage social media platforms. It can also provide relevant research results as research by other relevant scholars.

Keywords: augmented reality, selfie filter, computer graph, impression management, face mask

1. Instruction

According to an internet trend report (2023)，the number of global internet users has increased from 3.18 billion in 2018 to 5.16 billion in 2023, with daily usage reaching 6.59 hours a day (Kidd, 2023). The focus of information technology has shifted from personal computers (PCs) to smartphones, and the usage of videos and images by users on social media continues to rise (Choe et al., 2020). The digital era has fundamentally transformed our communication methods, with selfies becoming an indispensable element of image communication in social media and communication applications (Rettberg, 2018).

1.1 Background

When simply taking pictures and imaging cannot satisfy people's selfie sharing desires, the technology of beautifying and retouching filters came into being. "Selfie" has taken the world by storm, with numerous cosmetics applications showing up on Google's Android and Apple's IOS application stores (Chiu & Lee, 2018). It can be seen that the trend of retouching Meitu filters has actively continued the power of fashion beauty ideals (Barker, 2020).

However, although the beauty filter can beautify the impression and enhance communication, the principle of retouching is based on the modification of the original photo, which is limited by the photography imaging mechanism and cannot be modified arbitrarily.

In July 2017, Facebook and China Meitu (media Application company) jointly developed AR camera special filter, and AR technology was introduced into smartphone photography applications. Virtual Lens is popular to AR, and mainstream social media (Snapchat, Facebook Messenger, Instagram) which has virtual lens functions. New information technology can change the way information is presented to people.

1.2 Research Object

AR is a revolutionary change for selfie retouching. AR filters are different from traditional beauty filters. They create a virtual impression of themselves for the photographer, which will have a different influence on the communication and interaction of individuals in social media than before. Based on this new medium of photographic selfies superimposed with augmented reality technology, the research of this article is to explore its media characteristics and the influence of the resulting virtual impression management on the sender's own intrapersonal communication.

1.3 Significance

At the theoretical level, one of the most important theories to understand self-expression and impression management is Goffman's (1959) dramaturgical theory. He defines performance as "all activities of an individual occur in a continuous existence represented by a specific observer, and have a certain influence on the observer" (Goffman, 1959). People try to hide certain aspects that others do not appreciate and show what others appreciate (de Vaate et al., 2018). Taking and sharing AR filter selfies is the performance and management of virtual impressions at the social level online. Virtual impressions generate new social interactions for sender and receiver. This research can expand the research scope of dramaturgical theory in this respect, and extend offline performances to online performances and virtual performances.

This study has strong reference significance for the perception of virtual impressions, and provides a preview window for the application and popularization of AR technology in the whole industry. Understand the user's perception and intention in the communication of this technology, and provide theoretical support for the application and popularization of augmented reality technology in the future.

2. Literature Review

2.1 Selfie

A selfie can be described as a self-representation captured typically using a smartphone or webcam and subsequently shared on various social media platforms. Self-portraits made with digital cameras (often embedded in mobile devices), usually (but not always) intended to be shared on social networks. Therefore, it can be seen that the main purpose of selfies is to share on the Internet, to convey self-shooting impressions, so as to strengthen the information control of the recipients. Current scholarly investigations into selfies reveal that self-representation through selfies, facilitated by prominent Social Networking Sites (SNS) (Teppers et al., 2014), can compensate for limited social skills, aid in establishing and nurturing relationships (Yang & Brown, 2013), alleviate boredom and pass time, furnish insights into individuals who have met in offline contexts (Lampe et al., 2006), and, notably pertinent to the present study, create prospects for self-presentation and impression management (Grieve & Watkinson, 2016).

Generally, the primary aim of selfie behavior revolves around self-presentation and self-expression. When an individual captures a selfie, they inadvertently engage in a self-mirroring process when in front of the camera, generating a sensation akin to a "performance." Certain scholars contend that the advent of social media has fostered a culture of narcissism and self-absorption, characterizing selfies as emblematic of this "narcissistic culture" and as expressions of self-expression (Barry et al., 2017). The selfie enhances the ability to shape and express the self through dual control over the camera and the self at the time of composing the selfie (Katz & Crocker, 2015).

2.2 Beauty Filter

Beauty filters can be applied to photos to create various visual effects, and people choose from a series of filter icons representing various analog photography techniques to change the appearance of their pictures (Ozansoy Çadırcı & Sağkaya Güngör, 2019). The application manipulates the user's facial characteristics by slimming the face, shortening the nose, enlarging the eyes, enhancing lip fullness, and refining skin texture, thereby rendering them in a manner that aligns with conventional standards of beauty (Barker, 2020).

The act of editing selfies can prompt users to idealize certain aesthetics, consequently heightening concerns about their appearance(McCain et al., 2016).Selfie consumption can incite upward social comparisons since most selfies are meticulously chosen and altered (Chae, 2017), rendering it challenging for individuals to measure up to these idealized images, thus potentially resulting in decreased self-esteem regarding one's appearance. The observation of idealized selfies is shown to induce increased facial distress among young women (Fardouly & Rapee, 2019).

To sum up, the beauty filter, in accordance with stylized beautification standards, enforces a fixed mode of beautification on personal impression management, which also has some negative effects in communication.

2.3 Key Technology of AR

Augmented reality involves the creation of virtual digital objects utilizing computer graphics and visualization technologies. These virtual objects are then precisely integrated into the real-world environment through sensing and tracking technologies. With the assistance of display devices, these virtual objects are seamlessly merged with the real

environment, enabling real-time interaction, a fusion of virtual and real elements, and the delivery of an immersive experience that caters to users' sensory perceptions (He, 2019). The technical characteristics of augmented reality encompass the integration of virtual and real elements, real-time interaction, and 3D registration. As part of the immersive experience, the seamless real-time interaction stands out as a crucial operational process that enhances user perception, allowing users to fully engage with and experience augmented reality (Sorko & Brunnhofer, 2019).

Augmented reality represents the integration of virtual objects into the real world, enhancing and enriching the physical environment. It establishes a seamless connection between real-life and the virtual world, creating a harmonious blend of the two. This form of virtual reality has the capacity to heighten a user's perception of the physical world and introduce novel experiences that transcend time and space, thereby achieving an augmentative effect (Chen et al., 2019). Consequently, augmented reality finds extensive application in the realm of selfie design, particularly due to its natural alignment with the demands of digital-era consumers seeking to enhance their self-presentation and self-expression.

In conclusion, the continuous advancements and enhancements in AR technology have significantly enriched the daily digital experiences of individuals. However, it is noteworthy that there appears to be a dearth of comprehensive discourse within the existing literature regarding the potential applications of AR technology in the context of selfie design.

2.4 AR Filter Selfie

AR photography filters provide a huge advantage for selfies to spread in CMC, and are an important window to observe the impact of the public on their media perception and communication. However, the literature related to AR selfie filters is relatively limited. Zöllner proposed the concept of Snapshot Augmented Reality in 2010 (Zöllner et al., 2010). He focused on taking pictures on the ruins of tourist attractions. The mobile phone application can superimpose the CG restored model on the real ruins application, so it is called snapshot Augmented Reality. For the added filter of this non-photographic material photo, Barker calls it a virtual filter Virtual filters (Barker, 2020). Independent artist Gannis believes that with its AR filters, Snapchat is leading the way in augmented selfie photography (Gannis, 2017). This is the earliest document using AR filter. However, given the immature technology at that time, the author did not use APP to combine AR and selfie, but manually stitched computer graphics and selfies together (Gannis, 2017). Since AR photography can edit images, selfies can generate virtual impressions of themselves, giving users new opportunities to customize their self-presentation (Katz & Crocker, 2015).

2.5 AR Filter Selfie Principle

The operating mechanism of AR filters is similar to beauty filters, but it enhances scene registration tracking, as well as the import of computational graphics in the kernel rendering. The creation and utilization of such facial effects rely on augmented reality technologies that provide tools such as facial models and trackers (Biggio, 2021). Simultaneous localization and mapping technologies are crucial for augmented reality. Their working principle involves capturing visual data in the form of points from the physical environment and then inputting this data into a machine.

Specifically, from a technical perspective, the operation of AR filters involves three steps (Eugeni, 2022). The first step originates from facial recognition programs, where the phone camera captures the photon pattern (one's face) and converts it into a set of data to represent the model of the depicted object. Secondly, based on the filter algorithm chosen by the user, the dataset corresponding to this lens-based 3D model is overlaid and blended with computer-generated elements. Finally, the computed result is displayed on the phone screen. Because the data is dynamically reconfigured, users can view themselves as if in a distorted mirror. AR effects are also widely applied in other video and photo social media applications; the difference lies in the real-time occurrence of these AR effects, making them more dynamic and interactive (Riccio et al., 2022).

In conclusion, AR filters act as devices regulating the connection and exchange among three main resources: light, measurable using photons; images, quantifiable in pixels; and data, calculated in bytes. In the process of switching between these three resource domains, AR filters appear to be producers of images, but data plays a core and strategic role (Eugeni, 2022).

2.6 Goffman's (1959) Dramaturgical Theory

Goffman's (1959) dramaturgical theory stands out as one of the foremost and pivotal theories for comprehending the dynamics of self-expression and impression management. He defined performance as "all activities of an individual that take place within a continuum of existence represented by a particular observer and that have some effect on that observer" (Goffman, 1959). In interaction, each cannot escape the fact that the other exists, and therefore inevitably shapes his own image according to the other's expectations, trying to hide some aspects that others do not appreciate, and to show what others appreciate (de Vaate et al. al., 2018).

Erving Goffman calls it "self-presentation in everyday life" in which the selfie fits perfectly into the social and narrative conversations of the mobile phone-based selfie social media system. In the context of social media, the selfie provides an excellent form of self-expression where individuals can present themselves in a specific way and at the perfect angle to

an online audience by posting selfies (de Vaate et al., 2018). From this standpoint, individuals who harbor dissatisfaction with their physical appearance may exhibit a heightened propensity to edit their selfies, aiming to enhance their visual presentation before sharing them on social media platforms. This behavior is often driven by a desire to garner approval from friends and followers.

To sum up, the selfie superimposed CG through AR technology, which can satisfy users to make subversive changes to their self-image. In order to achieve the expression of specific thoughts and the reshaping of impressions. However, since AR filters are an emerging technology, they are just gaining popularity. Relatively little research has been done on its impact on communication. Selfies as a form of expression to show self-image, to spread information. This article focuses on the impact of this kind of automatic filter superimposed on the selfie by augmented reality technology, and the impact on the selfie. Explore the impact of its new medium on impression management and related influencing factors of users.

3. Method

This study adopts qualitative phenomenology as the research paradigm. In the ever-evolving field of new media, qualitative research offers insights into how users engage in virtual communication. According to Creswell and Poth (2018), phenomenological methods involve a return to experience to gain an understanding that provides the foundation for reflective structural analysis aimed at describing the essence of experiences. To enhance the credibility of data collection, three methods were employed for triangulation. These methods included documentary records of selfie contests at the respective universities, focus group discussions with a broad audience, and in-depth interviews with campus internet celebrities.

The research focuses on AR filters, with university students as the target population. This group is considered representative and interpretable within the broader population. Katz and Crocker (2015) have noted that most university students possess a sense of self-presentation and are adept at engaging in relevant operations on social media. Statistically, the majority of users are concentrated in the age group of 18 to 24 (Rios et al., 2018). University students were recruited as informants from two universities in Pingdingshan City, China. Both institutions attract students from various regions of China, thereby maximizing the diversity of the informant pool.

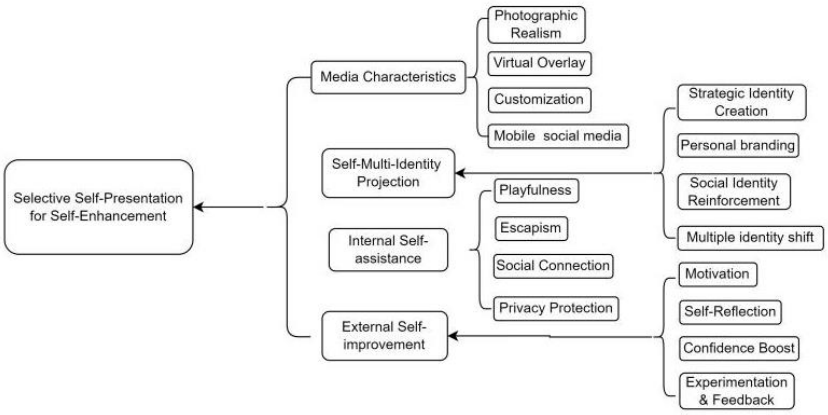
For data analysis, this study selects thematic analysis as the method of choice in alignment with the research objectives. When seeking to comprehend a set of experiences, thoughts, or behaviors within a dataset, thematic analysis is deemed an appropriate and effective method (Braun & Clarke, 2006). Through thematic analysis, the research constructs themes to reconfigure, reinterpret, and/or connect data elements, facilitating the exploration and investigation of new media AR filter-based selfie.

4. Results and Discussion

This paper adopts qualitative research method and uses thematic analysis method to analyze the data, inductive approach. Drawing upon a range of empirical assessments and reservoirs of knowledge, it is imperative to identify the fundamental principles or recurring laws that govern their behavior. According to these principles, strictly follow the data collection, and conduct bottom-up inductive analysis on the data.

Graph 1. Compared by Number of Coding References for the media characteristics of AR filter and intrapersonal communication

According to the original code, many codes with the same meaning but they are in different stages of using AR filters. Therefore, according to the chronological sequence of the whole process of users taking selfies and sharing with AR filters as a reference, the relevant codes are summarized into themes, and the various themes can be roughly connected to form a structural relationship of the subject.



Graph 2. Findings Themes and Categories of the media characteristics of AR filter and intrapersonal communication

NVIVO12 presented the thematic analysis results for the three types of raw data. Figure 4.4 displays the survey results' themes and categories related to the impact of new media on adolescent social engagement, highlighting the main theme for Research Question with its four sub-themes and 16 categories: "Media characteristics," "Self-Multi-Identity Projection," "Internal self-assistance," and "External self-improvement."

4.1 Media Characteristics

AR selfies utilize augmented reality (AR) technology to dynamically modify photographic self-portraits. Photography provides the realistic foundation for selfies, while AR technology adds a virtual dimension to them. With extensive customization features, AR selfies can generate diverse self-impressions. Utilizing smartphones as the primary platform, AR selfies benefit from social sharing, portability, cost-effectiveness, and rapid updates. These four characteristics—Photographic Realism, Virtual Overlay, Customization, and Mobile Photography—have been derived from data analysis and are supported by existing literature.

Realistic Style

Photography, as a visual medium, is widely regarded for its authenticity and objectivity. Bazin posits that photography fundamentally differs from painting in its inherent objectivity. From early critics like Charles Baudelaire, Elizabeth Eastlake, to Susan Sontag, photography has been praised as a witness to "absolute material accuracy" (Wells, 2021). Therefore, users are more inclined to make others believe, leveraging the authenticity of photography to conceal their imperfections and simulate flawless real photos using retouching techniques (Baudrillard, 2006).

Virtual overlay

The nature of AR technology itself determines the virtual overlay essence of AR selfies (Azuma, 1997). Javornik (2016) points out that the application of non-realistic effects brings users a completely new selfie experience, offering a rich and enticing user experience. Kim suggest that these virtual effects can include virtual landscapes, dynamic effects, or other virtual elements, making selfie photos more creative and appealing (Kim et al., 2016).

Customization

Many studies highlight the personalized customization feature, providing users with broader creative space for crafting virtual self-images. Interactive operations with various options stimulate user engagement and enhance users' motivation (Kim et al., 2016). Before posting selfies online, individuals often use photo editing software or applications to remove "unfavorable" aspects and add desired features to their appearance (Stefanone et al., 2019), a process that AR selfies can achieve in real-time.

Mobile Photography

The close integration of AR selfies with mobile devices, utilizing AR technology for photographic self-portraits on smartphones, incorporates numerous features of these devices. Users can conveniently share their AR selfies on social media platforms and engage in interactions and communication with other users, facilitating the establishment of a presence in the realm of selfies and sharing on social media (Lazard & Capdevila, 2020). Furthermore, Mobile Photography emphasizes the portability and convenience of AR selfies. This provides a cost-effective creative platform

for a wide range of users, enabling more people to enjoy the fun and creative freedom offered by AR selfies without significant financial investment.

4.2 Self-Multi-Identity Projection

Due to the media characteristics of AR selfies, users are empowered to generate a myriad of rich self-impressions on social media, providing them with opportunities to share and present their impressions to others. The literature indicates that selfies serve as a means of asserting personal status, recognition, and self-realization (Gorichanaz, 2019). Beauty filters assist users in voluntarily intervening to enhance their extended selves, transforming them into something between reality and the ideal (Ozansoy Çadırcı & Sağkaya Güngör, 2019). Impression management is a conscious or subconscious process wherein individuals seek to influence others' perceptions of a person, thing, or event by adjusting and controlling information in social interactions (Goffman, 1959).

Strategic Identity Creation

AR selfies empower users to consciously create and shape self-impressions that align with their strategies and contexts. Research indicates that individuals engaging in selfie editing demonstrate a strong desire to achieve their ideal online self-presentation (Chae, 2017). Users can choose suitable images and expressions based on their strategic needs, conveying specific information through AR selfies' visual elements. They may choose to showcase images that align with mainstream aesthetics and social norms to gain social recognition and acceptance. Research suggests that individuals seek confidence, recognition, and affirmation through others' reactions and aim to attract potential partners (Sung et al., 2016).

Personal Branding

AR selfies enable users to shape their online personal brand impressions, facilitating self-expression and self-positioning. Research suggests that individuals explicitly or implicitly engage in self-promotion when creating online content on third-party social media platforms (Zhu & Chen, 2015). Users strive to showcase consistent characteristics and styles in different selfies, aiming to establish a stable and reliable personal brand image in the minds of others. Identity is constructed through stable interpersonal interactions in social and natural environments, and when individuals attempt to build their ideal selves online, they still rely on the environment and audience to collectively construct a stable identity (Du Preez & Lombard, 2014). Individuals can leverage various AR effects and creativity to attract attention and interest in a distinctive way, thereby shaping a novel and unique personal brand image.

Social Identity Reinforcement

Individuals can reinforce their social identity through AR selfies. As suggested by Foucault (1988), we can "cultivate the self in the help of others" (Foucault, 1988). AR selfies provide a platform for individuals to visually showcase their affiliation with relevant social groups, thereby reinforcing their social identity and fostering a sense of belonging. Identity is constructed through interpersonal social interactions, and when an individual attempts to build their ideal self online, they still rely on the audience to collectively construct their identity (Du Preez & Lombard, 2014).

Multiple Identity Shift

Users can engage in the transformation and enactment of different virtual identity impressions through AR selfie technology. The internet has fragmented individuals' identities, and virtual new identities can reempower individuals as the architects of self-construction (Turkle, 2017). By selecting different effects and virtual elements through AR filters, users can create multiple identities that align with their fantasies, showcasing diverse aspects of themselves. AR photography can edit images, and through selfies, users have new opportunities to customize their self-impressions (Katz & Crocker, 2015).

4.3 Internal Self-assistance

Not everyone excels in social interactions, especially when they are alone or face social challenges. A study explored the relationship between self-esteem and happiness, indicating that selfies can positively impact self-esteem by selectively presenting oneself on social media, such as through editing or reviewing one's own photos on Facebook profiles (Gonzales & Hancock, 2011). Consistent with the results of this study, in situations of weaker social skills, the management of self-impression through AR filters can provide users with positive Internal Self-assistance.

Playfulness

Playfulness is manifested during the process of AR selfies, showcasing a lighthearted, enjoyable, and interactive aspect. AR filters can alter selfies by incorporating humorous and amusing elements, creating a joyful atmosphere. For example, filters that give users bunny ears or a "dog" filter with a dog nose (Rios et al., 2018) . Like fast fashion, these filters can immediately satisfy people's desire for novelty, bringing about a joyful fulfillment (Barker, 2020) .

Escapism

Escapism refers to how AR selfies enable users to immerse their self-image in fantastical backgrounds, allowing them to escape reality and effectively reduce negative emotions. The unique advantage of AR technology is its realistic 3D immersive experience (Kang et al., 2020). By creating beautiful, fun, or pleasing selfie impressions, users can shift their focus, alleviate stress and tension, and experience a sense of relaxation and comfort (Javornik, 2016). Users can play virtual roles or avatars through AR selfies, escaping the constraints of their real-world identity. Previous research has confirmed that the use of AR technology can help users detach from reality, thereby enhancing their satisfaction (Komarac & Ozretić Došen, 2021).

Social Connection

AR selfies provide users with a platform for interacting with others through virtual images and effects, leading to a sense of social satisfaction and belonging. Statistics show that online interactions involving images, including selfies with faces, are much more attention-grabbing than text and effectively convey emotions (Souza et al., 2015). As a new form of online social interaction, sharing selfies can help people fulfill their need for interaction with others (Lee et al., 2015).

Privacy Protection

In the digitalized social environment, safeguarding personal privacy is of paramount importance. AR selfies can achieve anonymous identities and implement blurring or obscuring of faces and locations, maintaining a certain level of privacy and security. In the era of digital images, numerous image processing technologies can fabricate facial features, backgrounds, and other data, making it difficult to detect (Bhole & Wajgi, 2020). These measures can assist users in controlling the visibility and access permissions of their personal information, reducing the risk of privacy breaches. On the other hand, AR selfies allow users to save and share selfies offline on local devices. This eliminates the replication and dissemination of AR selfies, reducing the associated risks.

4.4 External Self-improvement

AR self-portraits play a crucial role in the individual's self-growth and development. They have the ability to stimulate the motivation for self-expression, enhancing one's personal image through continuous self-portraiture, practice, and the application of self-impressions. Individuals, when using AR self-portraits, engage in self-reflection on their photos and performances, providing them with opportunities for feedback and improvement, thereby reinforcing self-confidence. Furthermore, they facilitate the enhancement of personal social skills. Previous scholarly investigations suggest that the use of filters to augment social engagement can contribute to an individual's emotional well-being(Javornik, 2016).

Motivation

AR selfies have the capacity to motivate individuals for self-expression and self-recognition, consequently fostering the motivation for taking selfies. Selfies generate more self-impressions, and an increased number of self-images further stimulates the degree of selfie-taking (Halpern et al., 2017). When individuals receive positive feedback, likes, or comments on their AR selfies, it brings them social approval, encouraging them to continue exploring AR selfie experiences and enhancing their self-presentation skills. Gonzales and Hancock (2011) found that viewing one's Facebook profile enhances self-esteem, while looking at one's reflection in the mirror does not.

Experimentation & Feedback

Experimentation refers to users' exploration and development of their virtual impressions through trying and experimenting with different AR selfie styles and techniques. From an online perspective, selfies are viewed as a form of embedded practice (Chiu & Lee, 2018). Feedback pertains to the responses and evaluations users receive when interacting and communicating with others on social media. The primary motivation for individuals to share their selfies on the social media market is to garner likes, comments, or other desired feedback from as many audiences as possible (Vassiliadis & Belenioti, 2017). Social media allows individuals to optimize their self-presentation by selectively showcasing aspects of themselves (Gonzales & Hancock, 2011).

Self-Reflection

Self-reflection refers to the user's exploration and contemplation of their own identity and image during the process of AR selfies. Literature shows that the process of creating selfies is regarded as a "visual self-creative reflection process"(Lüders et al., 2010). Online virtual impressions open up possibilities for exploring new identities (de Vaate et al., 2018). Users experience positive emotional effects when observing and evaluating their AR selfie creations, enhancing self-esteem and self-worth. Beauty-enhancing selfies contribute to managing personal impressions (Ozansoy Çadırcı & Sağkaya Güngör, 2019).

Confidence Boost

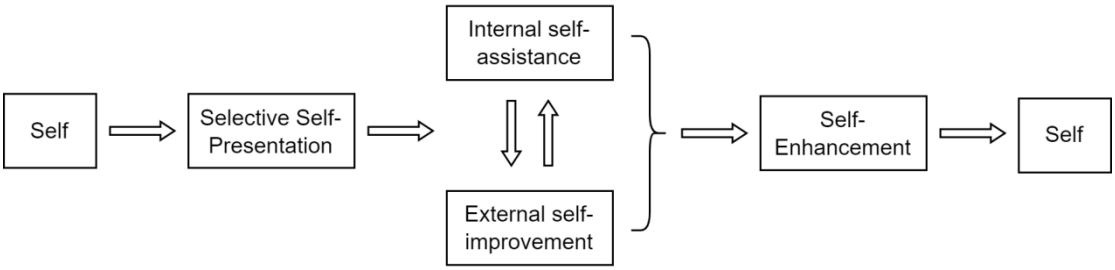
Confidence Boost through AR Selfies involves using AR selfie technology and related features to enhance users' confidence and self-identity. AR selfies offer a variety of filters and effects, allowing users to choose those that present a

confident image in their photos or videos. Filters with features such as enlarging eyes, slimming the face, and refining skin complexion can enhance user satisfaction with their self-image and boost confidence (Chiu & Lee, 2018). People tend to display images that conceal undesirable body features (such as being overweight), and beauty filters encourage selfie-takers to post more edited selfies to create a more positive impact (McCain et al., 2016).

5. Conclusion

After data analysis and discussion, "Media characteristics" and "Self-Multi-Identity Projection" represent users' perceptions of AR selfies. That is, due to the features of AR filter selfies providing users with rich and controllable means of impression management, it prompts users to project multiple impressions of themselves on social media. This allows users to realize the ability to selectively present themselves, known as "Selective Self-Presentation," based on the rich and controllable impression management provided by AR selfies. Therefore, users exhibit two states during interactive self-communication in AR selfies, namely, "Internal self-assistance" and "External self-improvement." Internally, AR filters present the self in an entertaining manner, offering means to escape reality, build social connections, and have privacy protection to resist negative emotions. Externally, AR filters can motivate users to shoot and share, engage in self-reflection, boost confidence, and experiment with feedback mechanisms for continuous self-improvement, enhancing positive emotions. Thus, the self-improvement from the inside out makes users willing to interact with AR selfies in intrapersonal communication, with the theme of "Self-Enhancement." AR selfies become another objectified self, accompanying and encouraging self, promoting intrapersonal communication.

Based on the comparison and summarization of the data collected in three ways, the study concludes that AR filter selfies have an impact on users' intrapersonal communication, with the theme of Selective Self-Presentation for Self-Enhancement.



Graph 3. Generate theoretical framework diagram

6. Implication

This study provides significant insights for the theoretical domain, contributing to the further development of related theories and conceptual frameworks. This study applied the concept of impression management from dramaturgical theory, emphasizing the importance of AR selfie filters in individual and organizational online impression management. This application expands the scope of dramaturgical theory, extending it from traditional theatrical performance domains to research in social media and CMC. This offers the theoretical domain a new perspective for interpreting and understanding the phenomenon of online impression management.

This study provides a series of important insights for the practical domain, particularly in the realms of social media and the communication industry. This research underscores the centrality of impression management in AR selfies. AR filters play a role in self-authorization and personal branding. Therefore, businesses and brands can leverage the popularity of AR selfies to better manage their online social images. Through collaboration with AR filters or creating their own AR selfie filters, brands can interact more creatively with consumers, shaping a positive brand image.

The policy implications of this study provide recommendations for governments and relevant stakeholders on managing AR filter selfies to ensure their healthy and responsible use in society. The data from this study indicate that AR filters provide internal support for individuals, offering comfort and entertainment during times of loneliness. This is crucial for maintaining mental health, as positive self-expression and interaction can reduce the risk of psychological disorders such as anxiety and depression. Policymakers may consider providing support in mental health policies, encouraging the positive use of AR filters and social media, while also offering mental health resources and support. This can help alleviate psychological stress in modern society and serve as a psychological defense for vulnerable groups. Additionally, targeted and precise interventions can be implemented based on backend data, identifying users exhibiting self-harm or suicidal tendencies through specific AR filter usage frequencies.

7. Limitation and Future Study

The focus of this study is on the media characteristics of AR filter selfies and their influence on user intrapersonal

communication. The informants are relatively limited and subject to geographical constraints. Future research endeavors will extend to interpersonal communication and mass communication.

Acknowledgments

We greatly appreciate the valuable contributions of our supervisory association committee members.

Authors contributions

Dr. Di Zhang undertook the primary responsibility for study design and work, while Dr. Syed Agil Alsagoff, specifically contributed to take the lead in drafting the manuscript and be a coding member checker. Dr. Megat Al Imran Yasin and Dr. Siti Aishah Muhammad Razi provided critical oversight by reviewing and proofreading the work.

Funding

This research was conducted without external financial support. All expenses and resources required for this study were personally funded.

Competing interests

The authors affirm that there are no competing financial interests or personal relationships that could have influenced the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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