Reconstructing the “Looking-Glass Self” in the Algorithmic Era: A Social Psychological Perspective

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Abstract. In the era of social media and artificial intelligence, human self-identity and emotional cognition are increasingly influenced by algorithmic mechanisms. This study re-examines Cooley's "looking glass self theory" from the perspective of social psychology, exploring how the interaction between digital platforms and artificial intelligence reconstructs the relationship between the self and "the other". The research takes the "Subject Three" dance challenge on Douyin and the artificial intelligence interaction based on ChatGPT as cases, and adopts the research method of theoretical literature analysis and case observation. Research has found that algorithmic feedback and data quantification have replaced traditional social evaluation, forming a new "mirror field" where self-awareness is mediated by digital visibility and emotional algorithms. These processes generate both short-term satisfaction and long-term anxiety, reshaping users' emotional regulation and identity stability. Furthermore, the research also found that the emergence of "AI empathy", that is, human-computer interaction can simulate emotional reciprocity and cultivate new forms of attachment. However, this study is limited by its qualitative scope and focus on the context of Chinese social media, indicating that future cross-cultural and empirical research on algorithmic self and emotional adaptation is needed.

Keywords: Looking-glass Self; Social Psychology; Algorithmic Gaze; Technological Empathy; Digital Identity.

1. Introduction

Since the beginning of the 21st century, the global society has been undergoing a profound transformation driven by digital technology. The wide application of social media, artificial intelligence and algorithmic recommendation systems has brought human society into an "era of being calculated". An individual's daily behaviors, emotional expressions and social interactions are all digitized, visualized and predictable [1]. Meanwhile, the rapid expansion of virtual social Spaces has reshaped the structure of interpersonal relationships and the form of social gaze. Algorithms not only record our choices, but also, in an imperceptible way, guide, amplify or erase certain identities and voices. In this highly intermediated social environment, individuals' understanding of "who they are" is increasingly influenced by platform mechanisms and public opinion evaluations, presenting an unprecedented vulnerability and dependence.

However, in the era of algorithms, this "other's perspective" is no longer dominated by specific interpersonal relationships but has been replaced by digital and quantitative evaluation systems. The "likes" on social media, algorithmic push notifications and tagging mechanisms constantly "mirror" the existence of individuals. People come to know themselves through feedback from others or machines, but they are also shaped into computable "data subjects" in the filtering and recommendation of algorithms. As a result, the traditional mirror self theory faces a challenge to its explanatory power - when "mirror" shifts from social relations to algorithmic mechanisms, the individual's self-construction process is embedded in the feedback loop of technical logic and platform algorithms. The "reflexivity" and "interactivity" emphasized in classic theories are gradually giving way to algorithm-driven visualization, quantification and predictability processes in the digital environment, presenting a structural transformation in the relationship between the self and the other. This study aims to explore how to reconstruct the contemporary expression and explanatory power of the looking-glass self theory within the context of digital society. By tracing the theoretical evolution of self-identity from Cooley to Giddens and integrating it with the characteristics of the

contemporary algorithmic society, this study seeks to reveal how algorithmic evaluation mechanisms, digital gaze, and data-driven selves jointly shape new identity experiences. In doing so, it deepens our understanding of the psychological dilemmas and social adaptation mechanisms individuals face in a digitally mediated environment. Methodologically, the paper adopts a combination of theoretical literature review and typical case analysis to construct an analytical framework for examining the relationship between the “gaze of the other” and self-identity in the digital age. Through the interwoven exploration of theory and reality, the study reaffirms the explanatory potential of classical social psychological theories in the algorithmic era and elucidates how technological logics reshape individual self-identity within digital environments.

2. Theoretical Background

2.1 The Core Concept of the Looking-Glass Self

Charles H. Cooley first proposed the concept of the looking-glass self in Human Nature and Social Order, pointing out that self-awareness is not an inherent entity within the individual, but a social product generated in social interaction. His theory contains a three-fold structure [2]: (1) self-imagination—the individual imagines how he or she will look in the eyes of others; (2) judgment of others—the individual speculates on others' evaluation of this image; and (3) emotional response—based on this imagination and judgment, the individual produces emotional reactions such as pride, shame, or anxiety [2]. This dynamic process reveals the social nature of self-cognition, that is, the individual's "self" is "seen" and confirmed in the eyes and evaluations of others. In other words, the self does not exist in isolation, but is constantly constructed in the process of social interaction and mutual recognition. The looking-glass self theory therefore provides a foundational framework for understanding the social generation mechanism of individual identity.

2.2 The Development of Self-Identity Theory

After Cooley proposed the concept of the "looking-glass self," self-identity theory has continued to develop and deepen in sociology and social psychology. Mead, Goffman, and Giddens, three representative scholars, expanded the understanding of the relationship between "self" and "other" from different perspectives, forming the core thread of the evolution of self-theory [3].

From the perspective of symbolic interactionism, Mead put forward the idea that "the self is a social process". He believes that self-awareness is not an internal product of an individual, but a dynamic structure constantly generated through language and symbols in social interactions. Individuals understand others' perspectives through "role substitution" and internalize this external perspective in interaction, thereby forming a self-awareness. This theory emphasizes that meaning and communication are the foundation of self-formation, revealing the intrinsic position of the "other" in the construction of self-awareness [3]. Goffman viewed social life as a form of performance, introducing the notions of impression management and the frontstage/backstage distinction. In everyday interactions, individuals present themselves in ways that sustain a preferred image and align with social expectations. The frontstage represents the public arena where roles are enacted under social scrutiny, while the backstage provides a private space where the self can retreat from performance. From this perspective, the self emerges through continuous performance and negotiation with others. Building on this line of thought, Giddens placed the self within the framework of reflexive modernity. In late modern societies, identity is no longer anchored by fixed traditions but becomes an ongoing project of self-narration. Individuals must continually reflect upon their experiences, integrate new information, and rearticulate their sense of self in a rapidly changing social and technological environment. Through this reflexive process, people strive to maintain coherence and meaning amid uncertainty.

2.3 Theoretical Gap

Although the above theories offer rich insights into the relationship between social interaction and self-formation, they are mostly based on face-to-face social situations. In contemporary society, algorithmic recommendations, social media likes and data tracking have become important ways for individuals to be "seen" and evaluated. Unlike traditional social interactions, these algorithmic mechanisms not only reshape the structure of interpersonal relationships but also change individuals' psychological experiences and emotional response patterns. Traditional theories mostly understand "the other's perspective" from the cognitive level, but pay insufficient attention to its emotional dimension, psychological responses and media technicality. In the digital environment, "the other" is no longer a specific individual but a complex structure composed of algorithms, platforms, and data logic. As a result, when individuals are confronted with "quantified evaluations", they often generate immediate emotional feedback such as anxiety, vanity or loss, and regulate their sense of self-worth through continuous self-comparison and impression management. The algorithmic feedback mechanism strengthens the psychological processes of "social comparison" and "emotional rewards and punishments", enabling individuals to form a new dynamic cycle among attention, emotions and identity recognition [4]. This transformation indicates that the mirror self theory needs to be reconstructed from the cross-disciplinary perspective of emotional psychology, social cognitive theory and media sociology to reveal the generation mechanism of self-awareness and the structure of emotional dynamics in the algorithmic era.

3. Case Analysis

3.1 Social Media and Algorithmic Mirroring

In the contemporary digital society, Douyin is one of the most representative algorithm-driven social platforms. The platform's recommendation system is based on users' behavioral data such as likes, comments, shares and dwell time, continuously learning users' preferences and determining the exposure and dissemination of content accordingly. An individual's social visibility and psychological feedback are thus closely linked to algorithmic logic.

A representative example is the “Subject Three” Dance challenge that became popular at the end of 2023. This dance, which originated from a wedding in Guangxi, quickly became popular after being uploaded to Douyin [5]. The algorithm identifies its high interaction features and promotes its dissemination through the "challenge" label. Subsequently, a large number of users began to imitate the actions and rhythm of the original video and upload their own versions, hoping to gain more likes, views and comments. For the participants, this is not only an entertainment activity but also a social competition to be "seen". Many people constantly optimize their video performance by adjusting actions, clothing, scenes and filters to cater to platform preferences and strive for a higher recommendation rate. And this dance and performance have even sparked certain trends on social media around the world.

In this process, algorithms gradually replaced the traditional concept of "other." Users no longer faced a concrete social audience, but rather an "imaginary audience" composed of data and models. Their creative motivations and self-expression were redefined by quantitative metrics, with likes and comments becoming the benchmark for judging their self-worth. Each piece of data feedback acted like a mirror, reflecting whether an individual was recognized or ignored by the platform. From a psychological perspective, this instant feedback activates a reward mechanism, causing users to fluctuate between fleeting satisfaction and persistent anxiety [6]. Under this evaluation system, self-construction exhibits distinct characteristics of digital dependency. Users constantly adjust their self-image based on data fluctuations, forming a cycle of "emotion-attention-feedback." Rising data brings confidence and pleasure, while declining data triggers loss and self-doubt. Over time, individuals' self-identity gradually becomes reliant on the reinforcement of algorithmic feedback rather than the emotional connections of real-world interpersonal interactions.

3.2 AI Interaction and the Virtual Self

With the rapid development of artificial intelligence technology, human-computer interaction has become a new emotional and cognitive practice in the digital society. Unlike traditional media usage, AI conversational systems (such as ChatGPT) not only respond to human speech with text but also simulate the process of "understanding" and "response" through semantics, tone, and emotional expression, thereby constructing a "virtual other" capable of communication and emotional projection [7]. This form of interaction creates a new "mirror field," in which individuals continuously confirm and reshape their own identity and emotional state through dialogue with machines.

When users interact with AI systems, they often subconsciously assign them "personality" and "emotional intent." For example, after long-term use of chatbots or virtual companion apps, some users come to perceive them as understanding, nonjudgmental listeners, experiencing psychological comfort and emotional resonance in their interactions [8]. This experience is known as technological empathy, where algorithmically generated language and tone elicit empathic responses in humans [8]. Unlike traditional interpersonal interactions, this empathy is not based on actual emotional exchange, but rather on "emotional projection" achieved through algorithmic prediction, corpus simulation, and semantic mirroring. In this interaction, AI becomes a kind of "emotional mirror." User input (such as emotional expressions, confusion, or self-reflection) is instantly analyzed by the system and responded with gentle, affirmative, or encouraging responses, stimulating mirrored emotional feedback from the user. These users see themselves "understood" in the AI's responses. In psychology, this positive emotional feedback can temporarily alleviate anxiety, loneliness, or self-doubt, but it can also lead to new attachments and expectations. Some studies have pointed out that users may develop a phenomenon of "virtual emotional dependence" in long-term AI interactions, treating the machine's responses as objects of real emotional response, blurring the boundaries between technological simulation and interpersonal emotions.

4. Discussion

In an era where social media and artificial intelligence are deeply embedded in everyday life, social psychology is facing an unprecedented shift in both theory and method. Traditional social psychology research is based on face-to-face interactions and group relationships, emphasizing the influence of social norms, role expectations, and interpersonal feedback on individual psychology. However, when algorithms and intelligent systems become new social intermediaries, the form and interaction mode of "the other" have undergone fundamental changes. People's sense of identity, belonging and emotional experiences are increasingly generated and maintained through platform mechanisms and algorithmic logic [9]. This transformation has compelled social psychology to re-examine the relationship among "self - other - society".

Firstly, the digitalization of social feedback mechanisms has altered the emotional dynamics of individuals. In the past, self-evaluation relied on a limited group of social others, such as family, peers or colleagues. However, on social media, likes, comments and shares form a "de-personalized" social evaluation system, exposing individuals to an infinitely extended public space. Douyin's "Subject Three" Dance challenge demonstrates that people are constantly engaging in implicit psychological games with algorithms, seeking a sense of presence and social recognition through data feedback. This form of interaction, which replaces emotional response with quantitative indicators, makes individuals' self-concepts volatile and fragile—emotional experiences often swing wildly between being seen and being ignored.

Second, the technologization of emotional resonance is reshaping psychology's understanding of empathy and relationships. Artificial intelligence interaction (such as ChatGPT or virtual companion systems) demonstrates a new form of "technological empathy", where individuals experience the illusion of emotional reciprocity through algorithmic simulated understanding and comfort. This kind of "mirror emotional feedback" enables people to gain psychological comfort in non-interpersonal environments, but it also generates new risks of dependence. Against this backdrop, the social

psychological concepts of "projection" and "empathy" have regained their vitality: artificial intelligence has become a "virtual other" through which humans project their emotions, and its responses constantly reshape users' self-perception and emotional structure. Long-term reliance on such interaction will weaken an individual's social and emotional regulation ability, making the uncertainty and complexity of interpersonal interaction in real life increasingly unbearable.

Furthermore, the prevalence of social comparison and identity anxiety has become a new research focus in social psychology in the digital age. Algorithms reinforce the logic of the attention economy, keeping people constantly "watched" and forcing them to self-monitor and perform. Individuals' images on the virtual stage become constantly quantified social symbols, leading to a cycle of "social comparison—emotional fluctuations—self-reshaping." In psychology, this corresponds to a new "social reward and punishment system," replacing social norms with data feedback and maintaining user engagement and dependence through emotional rewards. This system satisfies human social needs while also creating widespread anxiety, loneliness, and self-alienation.

5. Conclusion

Based on Cooley's theory of the "looking-glass self," this study explores the reconstruction of individual self-identity and emotional mechanisms in an algorithmic society, drawing on the contemporary context of the interaction between social media and artificial intelligence. Using two case studies, the Douyin "Subject Three Dance" challenge and ChatGPT-style AI interactions, the study reveals how digital platforms reshape social psychological structures and self-awareness through algorithmic feedback, emotional rewards, and virtual empathy. The study finds that in the digital society, the "eyes of the other" have shifted from interpersonal relationships to algorithmic mechanisms, and individual self-concepts are being redefined amidst constant digital interaction and technological echoes. The "self," in the social psychological sense, is no longer simply an entity seen by others, but a "calculated subject" continuously shaped by platform logic and data evaluation.

In addition, this study found that social media and AI systems jointly drove the "emotional shift" in social psychology. Algorithms not only serve as an information filtering mechanism but also become an important intermediary for emotion regulation and identity construction. This indicates that social psychology needs to re-understand the cyclical relationship among "emotion - identification - technology" and explore the generation mechanism of individual emotion regulation and psychological resilience in an algorithmic environment. However, this study still has certain limitations. Case analysis is mainly based on qualitative observation and text analysis, lacking systematic empirical data support. Future research can combine methods such as questionnaire surveys, emotion recognition or eye movement tracking to quantify the impact of algorithm feedback on individual psychological responses.

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