

Solitude and the Online Disinhibition Effect: The Dual Liberation Mechanism of Social Media Commenting Behavior Based on Role Theory

Zhang Yutong¹

¹ Nanjing Normal University, China

Correspondence: Zhang Yutong, Nanjing Normal University, Nanjing 210097, China. E-mail: 2637615355@qq.com

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Abstract

Using role theory as an analytical framework and considering the characteristics of China's social media ecosystem, this study explores the synergistic mechanism of physical solitude and the online disinhibition effect on users' commenting behavior. The research finds that solitude weakens the immediate constraints of real-world social norms by providing a private physical space, while the online disinhibition effect (centered on anonymity and the absence of non-verbal cues) further reduces psychological inhibition. Together, they facilitate the user's transition from a "front-stage role" to a "back-stage role." This dual liberation mechanism significantly diminishes self-monitoring and moral constraints, leading to reduced responsibility and moral disengagement, thereby promoting high-freedom commenting behaviors (such as polarized expression or deep self-disclosure). The study emphasizes the need for a dialectical view of this mechanism, providing a theoretical basis for the governance of Chinese social media platforms.

Keywords: solitude, online disinhibition effect, role theory, social media comments

1. Introduction

The comment sections of Chinese social media platforms (e.g., Weibo, Douyin, Xiaohongshu) have become significant spaces for diverse discourse. Data shows that 72% of users participate in comments while in a solitary state at night^[1], and device usage during solitude significantly affects psychological states: low-functioning introverts (characterized by lower identity development and higher loneliness) engage with social media 77% more frequently than high-functioning introverts. In this context, online discourse often contrasts sharply with real-world behavior: heated debates on Weibo hot searches, playful banter in Douyin videos, and critical commentary on Xiaohongshu "product placement" posts all reflect the combined influence of physical isolation (solitude) and the networked environment (anonymity). This article uses role theory to explore the mechanisms through which solitude and the online disinhibition effect contribute to the liberation of commenting behaviors in social media platforms.

2. Theoretical Basis

2.1 *The Role of Solitude in the Physical Environment*

Previous research defines solitude as a state of social detachment, often marked by decreased social inhibition and increased freedom of choice in mental and physical activities, offering a more open experience^[2].

This study specifically emphasizes solitude's marginal and spatial isolation aspect. Recent research by Thomas et al. (2021), building on Turkle's (2011) distinction between physical solitude and psychological solitude, categorizes solitude into device-assisted solitude and pure solitude^{[1][3]}. In this study, solitude aligns with "device-assisted solitude," where individuals are physically alone but use personal electronic devices to engage in social media activities. Domestic scholars also highlight that when individuals overly focus on interpersonal relationships, they have fewer opportunities for self-awareness, blurring the line between solitude and social engagement^{[4][5]}. According to Turkle, solitude---free from social constraints---allows individuals to experience relaxation and freedom, reducing self-monitoring tendencies^[3]. This reduction in self-monitoring makes users more likely to express opinions in solitude that they would hesitate to share in real-life situations due to social evaluation concerns.^[6]

Building on these distinctions, this study operationally defines solitude as the condition in which an individual is physically isolated from others and perceives themselves to be free from direct supervision or intervention by others. In the context of social media, this manifests when an individual engages with social media while alone, using a device.

2.2 The Role of the Online Disinhibition Effect

The online disinhibition effect is an essential psychological mechanism that explains increased self-disclosure and altered behavior in online spaces. Simply speaking, people may do things online that they would not do in face-to-face occasions, which has been named as the "online disinhibition effect". According to the opposite behavioral outcomes, Suler (2004) classified online disinhibition as benign disinhibition and toxic disinhibition^[7]. Benign disinhibition involves the sharing of private emotions, fears, and desires, promoting self-exploration and interpersonal connection. Conversely, toxic disinhibition manifests in aggressive and harmful behaviors such as verbal attacks or cyberbullying. Suler identifies six key factors that contribute to this effect: dissociative anonymity, invisibility, asynchronicity, solipsistic introjection, dissociative imagination, and the minimization of status and authority. In online spaces, the lack of real-time social feedback, coupled with anonymity and the absence of eye contact^[8], significantly reduces self-regulation, allowing individuals to exhibit behaviors that would typically be constrained in face-to-face interactions.

The lack of eye contact, in particular, plays a significant role in enhancing toxic disinhibition, as it removes the immediate feedback that would otherwise regulate behavior. Solitude provides an additional layer of isolation, as it allows users to avoid non-verbal communication and the constraints that accompany face-to-face interactions, further facilitating uninhibited online behavior. Plus, considering that time spent alone can be linked to the time people spent online and on social media, the physical state of being alone may lead to an increase in the amount of time people spend browsing social media platforms, which could be associated with greater online disinhibition and in turn with higher levels of online self-disclosure, trolling, and cyber-bullying and lower levels of social connectedness and flourishing.^[8]

2.3 Role Theory

Role theory explains the generation and transformation of social behaviors through the lens of social roles. This framework, often illustrated through theatrical analogies, posits that individuals occupy various roles, each with its corresponding expectations and behaviors. In the context of social media, these roles differ from those in real-life settings, influencing the ways individuals interact and express themselves. For example, a professional might engage more casually and expressively on social media than in formal settings.

Biddle (1986) integrated several perspectives on role theory^[9], including the symbolic interactionist view, which emphasizes the active reconstruction of roles through situational interpretation^[10], and the cognitive perspective, which examines how perceptions of expectations shape behavior^[11]. Some Chinese scholars have also pointed out that role theory holds guiding significance for the development of family relationships in real-life contexts^[12]. This study draws on these perspectives to understand how users transition from normative roles (front-stage) to self-directed roles (back-stage) through the online disinhibition effect^[13].

Based on the perspective of role theory, physical solitude implies an absence of social supervision^[14], weakening the normative expectations associated with real-world social positions and triggering a role distance effect^[15], thereby providing users with psychological space for role experimentation. Secondly, the online disinhibition effect diminishes the anticipated social rewards and punishments for role behaviors through mechanisms such as dissociative anonymity and minimization of authority^[7]. In this context, users are guided not by normative expectations but by internalized preferences-driven self-presentation^[9], resulting in the formation of a 'virtual role self'.

3. Interpretation from the Role Theory Perspective: The Dual Liberation Mechanism of Social Media Commenting Behavior

From the perspective of role theory, the dual liberation mechanism in social media commenting behavior is primarily reflected in how solitude and the online disinhibition effect influence the user's role and behavior. This process involves a transition from a "front-stage role," where social norms and external expectations are dominant, to a "back-stage role," where self-driven behaviors take precedence^[16].

Physical solitude unbinds users from the social constraints associated with their real-world roles, allowing them to engage more freely in social media activities. The lack of supervision and psychological relaxation experienced in solitude diminishes self-monitoring and encourages users to break free from social role expectations. For instance,

a typically reserved individual may feel more comfortable expressing radical opinions about an industry topic when alone.

The online disinhibition effect further reinforces this liberation. It shifts the user from a position-based role to a self-projected role, where cognitive restructuring occurs through moral disengagement^[17]. Accompanied by cognitive restructuring involving moral disengagement^[18], users attribute their back-stage behaviors to the permissive online environment (e.g., "the platform allows anonymity"), rather than personal accountability. Additionally, solitary users are more likely to engage in asynchronous commenting, where delayed feedback weakens the constraints associated with their front-stage role, promoting self-expression and role redefinition^[7].

The combination of solitude and online disinhibition results in a dual state of "physical invisibility + online anonymity," creating an environment where users can engage in behaviors that are significantly different from those exhibited in real life, thus enabling a certain degree of "liberation" from their real-world roles.

4. Other Factors Influencing Social Media Commenting Behavior

4.1 Individual Differences

Suler (2004) suggests that individual personality traits influence the degree of disinhibition experienced in online spaces^[7]. For example, extroverted individuals are more likely to engage actively on social media, posting frequent comments to satisfy their social needs^{[19][20]}. In contrast, neurotic individuals may use social media to express negative emotions, often triggering aggressive responses^[21]. Additionally, users with lower levels of self-monitoring are more likely to engage in impulsive commenting behavior, disregarding social norms in favor of expressing their inner thoughts^[22].

Furthermore, research suggests that psychological function, rather than personality traits alone, predicts social media use. Low-functioning introverts, who experience higher loneliness, tend to use social media more frequently than high-functioning introverts^[1]. Additionally, whether a person behaves civilly online is not only related to their inherent personality but is closely connected to their capacity for empathy and their ability to effectively manage their emotions as well. Individuals who struggle with handling negative emotions are more likely to indulge in unrestrained words and actions under the "protection" offered by the online environment (Syrjämäki et al., 2024).^{[23][24]}

4.2 Non-verbal Communication: The Lack of Eye Contact

Eye-contact, or gazing, is recognized as a direct, significant part of communication and a meaningful psychological factor in non-verbal communication, playing a critical role in real-world interactions by conveying emotional and social information. It is a condition that affects one's personal feelings during interpersonal interactions. It has been found that eye contact is central to interpersonal communication, serving to transfer information, moderate interactions, reveal emotions, and express intimacy; it assists in achieving social control as well (Grumet, 1983; Kleinke, 1986; Webbink, 1986)^{[25][26][27]}. The absence of eye contact in online interactions reduces the constraints on behavior. Research by Lapidot-Lefler (2012) showed that the absence of eye contact, coupled with anonymity, significantly increases aggressive behavior and toxic comments in online spaces, associated with an increase in self-reported incidents of explicit conflicts and threat levels, as well as overall negative online disinhibition behavior scores.^[8]

5. Dialectical Analysis of the Dual Liberation Mechanism

The dual liberation mechanism of social media commenting behavior has both positive and negative aspects. On the positive side, it promotes diverse forms of expression, enhancing the dissemination of information and enabling users to share unique insights and experiences. This fosters a richer, more dynamic online environment and allows users, particularly introverts, to express themselves more freely.

However, the mechanism also has negative consequences. The lack of supervision and moral disengagement can lead to online chaos, including aggressive commentary and cyberbullying. Furthermore, the absence of eye contact and anonymity can exacerbate role conflicts and contribute to moral disengagement, undermining social norms and contributing to the spread of malicious content^[9]. Such role conflicts may require negotiation mechanisms as described by Hall (1972)^[28].

6. Discussion

Based on role theory, this study elucidates a dual liberation mechanism that governs social media commenting behavior, which is synergistically constituted by the user's state of physical solitude and the psychological online disinhibition effect. The research finds that solitude weakens the immediate constraints of real-world social norms by providing a private physical space free from direct supervision, while the online disinhibition effect (centered

on factors such as anonymity and the lack of non-verbal cues) further reduces psychological inhibitions. Together, they facilitate the user's transition from a "front-stage role" to a "back-stage role." This dual liberation significantly diminishes self-monitoring and moral constraints, leading to reduced responsibility and moral disengagement, thereby promoting high-freedom commenting behaviors.

6.1 Theoretical Contributions and Practical Implications

The primary theoretical contribution of this study lies in integrating role theory with the online disinhibition effect to propose a new framework for explaining social media commenting behavior. Previous research has either focused on the characteristics of the online environment ^{[7][8]} or explored the psychological impacts of solitude. This study, however, reveals how the physical context (solitude) and online psychology (disinhibition) produce synergistic effects by influencing the role-playing process. In particular, the study emphasizes the crucial role of the absence of non-verbal cues (such as eye contact) in the disinhibition effect ^{[8][25][26]}, providing a more refined perspective for understanding the micro-mechanisms of online role transition. Furthermore, introducing the mechanism of moral disengagement ^[18] into the model explains how users rationalize their behaviors after entering the "back-stage role," deepening the understanding of the internal logic behind behavior generation.

On a practical level, this study offers important implications for the governance of social media platforms. The dialectical nature of the dual liberation mechanism requires governance strategies to move beyond simplistic "blocking" approaches. On one hand, the mechanism's positive value in promoting expressive diversity and individual self-exploration should be recognized. On the other hand, to address its negative effects, platforms could consider using technical design (e.g., introducing prompts that enhance social presence in specific high-conflict situations) and community cultivation (e.g., strengthening community norms and empathetic guidance) to gently reshape the environmental atmosphere of the "back-stage," guiding users towards more responsible self-presentation ^[24].

6.2 Research Limitations and Future Directions

This study has several limitations. First, methodologically, it primarily adopts theoretical deduction and literature review, lacking direct empirical data testing. Future research could employ quantitative methods (such as surveys) or experimental methods (such as manipulating states of solitude and different features of the online environment) to validate and refine the proposed dual liberation model. Second, although this study considered the influence of personality traits, it did not comprehensively cover other potentially important individual difference variables, such as emotion regulation ability ^[24] or certain pathological traits ^[23], which may interact with the dual liberation mechanism.

On the theoretical front, future research could further explore the application of structural role theory ^[29] and, using Social Network Analysis (SNA), investigate the relationship between the roles users play in comment networks and their positions within the network structure. Furthermore, with advancements in cognitive neuroscience, techniques such as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) hold promise for revealing the neural substrates of how the disinhibition effect (especially in the context of solitude and lack of eye contact) influences moral decision-making and emotional responses.

Finally, social media technology itself is evolving rapidly, and user behavior patterns are constantly adapting. Therefore, employing longitudinal tracking and adaptive research frameworks to continuously monitor how technological changes and socio-environmental dynamics moderate the dual liberation mechanism is crucial for comprehensively understanding and effectively guiding the future development of social media commenting behavior.

7. Conclusion

In conclusion, solitude and the disinhibition effect jointly constitute a dual liberation mechanism that governs social media commenting behavior. From the standpoint of role theory, their interaction reshapes users' role performance and expressive behaviors in digital environments. Additionally, individual differences and the absence of direct eye contact significantly modulate this process, influencing the tone and nature of online comments.

This dual liberation mechanism exerts both constructive and detrimental effects, that is while it promotes expressive diversity and democratizes participation, it can also foster disorder and polarization within online discourse. The present study thus offers a theoretical framework for comprehending the psychological and social foundations of commenting behavior on social media. Future research should aim to refine this theoretical model and undertake empirical validations, providing a more rigorous scientific basis for social media governance and the management of online discourse ecosystems.

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