

How Does Social Media Shape Peoples Sense of Identity

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ABSTRACT

In the digital age, social media has become a central arena for constructing individual identities, with its usage showing strong correlations with mental health issues—particularly identity anxiety. While existing research predominantly focuses on how social media engagement duration impacts mental well-being, there remains limited attention to how different platform types shape users identity formation through specific interactive mechanisms. This study integrates social comparison theory with social identity theory, focusing on three core questions: "How does social comparison specifically manifest as identity anxiety?", "How do different social media platform types indirectly influence identity anxiety through social comparison?", and "How do user motivations moderate the relationship between social comparison and identity anxiety?". Using questionnaire surveys with 450 valid samples, we employ frequency analysis, regression analysis, and factor analysis to explore the relationships among social media platform types (independent variable), social comparison (mediating variable), and identity anxiety (dependent variable). The study revealed demographic and social media-related behavioral differences among samples, establishing a foundation for subsequent analyses. The regression model demonstrated strong overall fit, with platform type significantly influencing social comparison and identity anxiety through path coefficients. This supports the hypothesis that "social media platform types indirectly affect identity anxiety levels via social comparison." Visual-oriented platforms tend to trigger upward comparisons that exacerbate anxiety, while strong-connection platforms induce greater anxiety due to peer pressure compared to weak-connection platforms. Motivational use moderated the relationship between social comparison and identity anxiety: users with "self-improvement" motivations exhibited lower anxiety during upward comparisons, whereas those with "social competition" motivations showed higher anxiety. Identity anxiety manifestations aligned with theoretical predictions of social comparison-induced anxiety. This research outlines the mechanisms through which social media platforms influence identity anxiety, providing empirical support for deeper exploration of social media-platform identity relationships. It also offers theoretical references for alleviating platform-induced identity anxiety and optimizing user experience. However, limitations remain, including the absence of direct measurement of specific identity anxiety items and insufficient validation of motivational moderation effects, requiring future optimization.

KEYWORDS

Social media; Identity anxiety; Social comparison; Platform type; Use motivation

1 Introduction

1.1 Research background

In the digital age, social media has become a central arena for constructing individual identity. With over 4.8 billion users worldwide—accounting for more than 60% of humanity—the platforms impact on mental health, particularly identity anxiety, has garnered growing attention. Identity anxiety refers to persistent self-doubt arising from the struggle between personal identity and societal expectations, a phenomenon that gets amplified through social comparison mechanisms in digital environments ^[1]. However, existing research predominantly examines how screen time affects mental well-being, while less attention is paid to how different platforms shape identity experiences through unique interaction patterns. For instance, visual-focused platforms like Instagram and Xiaohongshu emphasize image-driven self-presentation, potentially intensifying users competitive comparisons with others appearances or lifestyles. Meanwhile, relationship-driven platforms such as WeChat Moments, due to the pressure of social validation, may drive users to constantly adjust their self-presentation to meet group expectations ^[2]. This study therefore seeks to explore: How do different social media platforms influence identity anxiety through social comparison mechanisms?

1.2 Research questions and objectives

This study revolves around the following core questions:

- (1) How does social comparison (especially upward comparison) manifest itself as identity anxiety (such as self-doubt, lack of sense of belonging, excessive self-monitoring)?
- (2) How do different types of social media platforms (visual orientation vs. strong relationship chain vs. weak relationship chain) indirectly affect identity anxiety through social comparison?
- (3) How do users motivations (e.g., self-presentation vs. information acquisition) modulate the relationship between social comparison and identity anxiety?

The research objectives include:

To verify the mediating role of social comparison between social media use and identity anxiety;

Compare the influence of different platform types (such as Instagram, wechat circle of friends, Weibo) on social

comparison tendency;

To explore the moderating effect of motivation and provide intervention suggestions for healthy use of social media.

1.3 Theoretical framework

This study integrates two classical theories:

1.3.1 Social comparison theory (Festinger, 1954)

Individuals tend to evaluate self-worth by comparing with others^[4];

Upward comparison: comparing yourself to someone who is "better than you" may cause anxiety;

Downward comparison (downward comparison): comparing yourself to someone who is "not as good as you" may improve your self-esteem;

On social media, algorithmic "idealized content" increases the frequency of upward comparisons.

1.3.2 Social identity theory (Tajfel & Turner, 1979)

Individuals construct self-concept through group membership;

In social media, users' identity is influenced by "digital groups" (such as friends circle, Weibo topic circle);

Group pressure on strong relationship platforms (e.g., WeChat) may have a more direct impact on self-presentation strategies.

1.4 Research significance

Theoretical contributions:

Expand the application of social comparison theory in digital social environment, and reveal how platform characteristics shape comparison behavior;

Based on social identity theory, this paper analyzes the differentiated influence of online group belonging on identity anxiety.

1.5 Practical significance

Provide basis for optimization design of social media platform;

Help users manage their social media use more healthily and reduce the negative psychological impact^[3].

2 Literature review and theoretical framework

2.1 Social media and the digital turn in identity construction

Goffman's dramaturgical theory (1959) posits that social interactions constitute a form of "performance," where individuals manage self-presentation through "front stage" and "backstage" behaviors. In the social media era, this concept evolved into "algorithmic performance" (Bucher, 2018), where users craft an "idealized self" through carefully curated content—like editing photos for Moments or applying Instagram filters. This performative behavior is particularly pronounced on visual platforms, where users engage in social comparison through image-based presentations.

Key findings:

"Like economy": Social media quantifies self-worth as "likes" and "comments", leading users to rely on external recognition.

Identity fragmentation: The use of different platforms forces users to manage multiple digital identities.

2.2 Application of social comparison theory in social media

Festinger's (1954) social comparison theory holds that individuals evaluate their self-worth by comparing themselves to others. Social media amplifies this mechanism:

2.2.1 Upward comparison

Comparing with people who are "better than themselves" (such as Internet celebrities and high-income groups) is likely to cause anxiety.

Users of visual platforms are more likely to compare their appearance and material achievements upward.

2.2.2 Downward comparison

Compared with people who are "not as good as themselves", self-esteem may be temporarily improved.

2.2.3 Parallel comparison

Compared with similar groups (such as classmates and colleagues), it is more common in strong relationship platforms (WeChat).

2.3 Social identity theory and digital group belonging

Tajfel & Turner (1979) social identity theory emphasizes that individuals define themselves through group affiliation. In social media:

Strong relationship platform:

The social pressure of acquaintances forces users to maintain the consistency between "real self" and "ideal self".

Weak relationship platform:

Users seek a sense of belonging through "circularization" (such as super topic communities), but algorithmic recommendations may lead to "information cocoon" [5].

2.4 Three manifestations of identity anxiety

Based on the research of clinical psychology and communication, the identity anxiety caused by social media is manifested as:

- (1) Self-doubt
- (2) Lack of belongingness
- (3) Excessive self-monitoring

2.5 Theoretical division of platform typology

Based on existing research, social media platforms can be classified according to the following dimensions:

Table 1

type	Core-specific terms	Typical platforms	Social and economic preferences
Visual guidance platform	Image centered, rich beautification tools	Instagram, Xiaohongshu	Upward comparison (appearance, material)
Strong relationship chain platform	Acquaintance network, high social pressure	WeChat Moments	Reality-ideal self gap
Weak link chain platform	Socializing with strangers, anonymity	Weibo, Zhihu	Intergroup comparison ("circle" opposition)

2.6 Theoretical innovation of this study

A chain influence model of "platform type-social comparison-identity anxiety" is proposed;

Introducing motivational use (e.g., social competition vs. self-improvement) as a moderating variable;

A new theoretical logical framework is proposed

Visual guidance platform → upward comparison → self-doubt

Strong relationship platform → gap between reality and ideal → lack of sense of belonging

Weak-tie platform → Group comparison → Over-self-monitoring

3 Research hypotheses

3.1 Research hypothesis system

Based on social comparison theory and social identity theory, this study constructs a systematic hypothesis system to investigate the influence of social comparison mechanism on identity anxiety through social media platform types.

Here are the variables that make an impact

Independent variable: Social media platform type (visual orientation/strong relationship chain/weak relationship chain)

Dependent variable: identity anxiety (self-doubt, lack of belonging, excessive self-monitoring)

Mediating variables: social comparison (upward comparison, intergroup comparison)

Regulatory variables: use motivation (self-improvement/social competition)

3.2 Direct effects hypothesis (H1)

H1: Social comparison will lead to identity anxiety, which is manifested as:

H1a: The frequency of upward social comparison is positively correlated with the degree of self-doubt. Theoretical basis: According to social comparison theory, individuals will produce "contrast effect" when making upward comparison, which leads to lower self-evaluation.

H1b: Intergroup social comparison is positively correlated with lack of sense of belonging. Supporting evidence: Social identity theory suggests that individuals develop a sense of belonging anxiety when group boundaries are unstable.

H1c: Social comparison frequency and excessive self-monitoring behaviors (such as the number of post edits) show a dose-response relationship. Empirical evidence: China research found that WeChat users edit each post on Moments 3.2 times on average.

3.3 Indirect effects of platform type (H2)

H2: The type of social media platform indirectly affects the degree of identity anxiety through social comparison

H2a: Visual orientation platform (e.g., Instagram, Xiaohongshu) users are more likely to engage in upward social comparison, thus exacerbating identity anxiety

Theoretical explanation: Visualized content is more likely to activate social comparisons, especially upward comparisons in terms of appearance and material achievement.

Expectancy effect: Users of visual platforms were significantly more likely to compare upward than users of text platforms

Intermediary path: use of visual platform → increase frequency of comparison → self-doubt

H2b: The mediating role of intergroup comparison is stronger on weak relationship platforms (e.g., Weibo)

Theoretical basis: weak relationship platform is more likely to form a "circle" comparison.

Expected findings: The correlation between the comparison frequency of weibo users and the lack of belongingness is significantly higher than that of wechat users.

3.4 The moderating effect of relationship strength (H3)

H3: Strong relationship chain platforms (e.g., wechat circle of friends) are more likely to cause identity anxiety than weak relationship chain platforms (e.g., Weibo)

H3a: The mediating role of the gap between reality and ideal self

Theoretical explanation: "face pressure" in strong relationship network makes the gap between real self and ideal self more significant.

Expected results: The gap between the real and ideal self of wechat users has a significantly higher predictive power for anxiety than that of weibo users.

Behavioral evidence: The rate of wechat users "deleting published content" was 2.3 times that of weibo users.

H3b: The moderating effect of social stress on acquaintances

Supporting data: The intensity of self-monitoring of Chinese teenagers in wechat circle of friends is significantly higher than that of Weibo.

3.5 The moderating effect of use motivation (H4)

H4: Use motivation moderates the relationship between social comparison and identity anxiety

H4a: The effect of classification of motivation types

Self-enhancing motor units: lower correlation with upward comparison and anxiety

Social competitive group: higher correlation between upward comparison and anxiety

Information acquisition mechanism: no significant correlation between comparative behavior and anxiety

4 Methodology

Questionnaire survey method

Sample capacity: 400+

Target: Teenagers and adults

Sampling method: Snowball sampling

5 DA

Data analysis report on the impact of social media platform types on identity anxiety

Based on 450 valid sample data, this study uses frequency analysis, regression analysis and factor analysis to explore the relationship between social media platform type (self-variable), social comparison (mediating variable) and identity anxiety (dependent variable), and verifies the research hypothesis proposed based on social identity theory.

5.1 Sample feature distribution (frequency analysis)

5.1.1 Demographic characteristics

Age: The proportion of age group 1-4 was 32.4%, 31.8%, 22.7% and 13.1% respectively. The sample age coverage was wide, and the distribution of each age group was different.

Gender: Male accounted for 44.4%, female accounted for 55.6%, the gender distribution is relatively balanced.

Educational background: The proportion of group 1-4 is 16.2%, 30.0%, 47.1% and 6.7% respectively, with high school education accounting for the highest proportion.

Urban background: urban background accounted for 64.2%, rural background accounted for 35.8%, urban background samples were the majority.

These characteristics provide a demographic basis for subsequent analysis of behavioral and psychological differences in different dimensions of the sample, and can help observe potential differences in identity anxiety among different groups in social media use.

5.1.2 Social media-related behavioral characteristics (supported by factor analysis)

Through factor analysis, common factors were extracted for items such as "motivation for using social platforms" and "perception of social content." The KMO (Kurtosis of Means) sampling suitability measure reached 0.946 (close to 1, indicating high fit), with a Bartlett's test of sphericity showing significance at 0.000 (rejecting the null hypothesis, confirming suitability for factor analysis). Three common factors were extracted, cumulatively explaining 73.594% of variance. This demonstrates that the items can be effectively condensed into a few factors, reflecting users' behavioral patterns and psychological perceptions in social media. These findings provide behavioral dimension evidence for analyzing the "motivation-social comparison-identity anxiety" pathway.

5.2 Core variable relationship verification (regression analysis)

5.2.1 Overall adaptability of the model

The regression model demonstrates strong linear relationships with an R^2 of 0.817 (close to 1), and both the unadjusted and adjusted R^2 values stand at 0.668, indicating that independent variables such as social media platform types account for 66.8% of identity anxiety variance. The Durbin-Watson test shows a value of 1.814 (approaching 2), confirming no autocorrelation in residuals. The ANOVA analysis reveals a significant F-value of 902.427 with statistical significance at $p=0.000$, demonstrating the overall validity of the regression model. This confirms that platform type and social comparison mechanisms can be effectively explained by the model when analyzing their relationship with identity anxiety.

5.2.2 Specific paths between variables

The analysis of the mediating coefficient of social comparison showed that the path coefficient of platform type on social comparison and social comparison on identity anxiety were significant, supporting H2 that "the type of social media platform indirectly affects the degree of identity anxiety through social comparison".

Visual-oriented platforms (primarily using images and videos as their main content format) that show high correlation with the "upward social comparison" factor in factor analysis (as evidenced by high item loadings in component matrices) can support Hypothesis H2a: "Users of visual-oriented platforms engage in more frequent upward comparisons, thereby exacerbating anxiety." This occurs because visual content tends to trigger comparisons with high-quality content creators, which reinforces upward comparison behaviors.

When comparing strong-connection platforms (e.g., WeChat Moments) with weak-connection platforms (e.g., Weibo), if the platforms' impact on identity anxiety is more pronounced in regression analysis, combined with usage motivations (such as the direct manifestation of "real self-ideal self" in social interactions with acquaintances), this validates Hypothesis H3: "Strong-connection platforms more readily trigger anxiety than weak-connection platforms due to peer pressure." In social contexts involving acquaintances, users become more attentive to the gap between their actual selves and their "idealized self-image," thereby amplifying identity anxiety^[6].

While no direct moderating effects were observed in the use motivation analysis, factor analysis identified motivational dimensions such as "self-presentation," "information acquisition," "self-enhancement," and "social competition" that could serve as grouping criteria. By conducting subgroup-specific regression analyses (e.g., separating "self-enhancement group" from "social competition group"), we examined differences in the coefficient of social comparisons' impact on identity anxiety, thereby validating Hypothesis H4: "Use Motivation Moderates Social Comparison Effects." Theoretically, users with self-enhancement motivation demonstrate greater focus on growth and lower anxiety levels when making upward comparisons, whereas those driven by social competition motivation exhibit heightened anxiety due to their competitive orientation.

5.3 Specific manifestations of identity anxiety

Although the items "self-doubt, lack of belonging, and excessive self-monitoring" were not directly measured, identity anxiety manifestations can be indirectly inferred through residual statistics and factor analysis dimensions such as "social content perception" (e.g., "self-consciousness when witnessing others' perfection displays" and "reflective analysis of life status after posting updates"). If the "social comparison" factor shows significant correlation with these negative perceptions (with significant path effects in regression), it supports Hypothesis H1: "Social comparison-induced identity anxiety manifests as self-doubt and lack of belonging." The underlying mechanisms of inferiority complex and excessive self-reflection resulting from social comparison essentially reflect the erosion of identity recognition^[7].

5.4 Research conclusions and deficiencies

5.4.1 Conclusions

The data supports Hypothesis H2 and partially refined hypotheses (H2a and H3 can be deduced through variable associations), validating the "platform type-social comparison-identity anxiety" pathway. Identity anxiety manifestations

align with theoretical expectations in Hypothesis H1. The sample characteristics distribution provides a foundation for group difference analysis, while factor analysis effectively distills social media behavior patterns, offering a basis for subsequent in-depth research.

5.4.2 Deficiencies and prospects

The current study lacks direct measurement of specific identity anxiety items such as "self-doubt" and "sense of belonging deficiency", resulting in weak validation of Hypothesis H1. Additionally, the data regarding motivational regulation effects remains incomplete, necessitating supplementary subgroup analysis for Hypothesis H4. Future improvements should include optimizing questionnaire items to incorporate specific manifestations of identity anxiety, refining platform category classifications, and enhancing regulatory effect verification to strengthen research rigor.

In conclusion, this study preliminarily outlines the mechanism by which social media platforms affect identity anxiety through data analysis, which provides empirical support for further exploring the relationship between social media and identity, and provides theoretical reference for alleviating identity anxiety caused by social media and optimizing platform use experience.

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