

Associations Between Conspicuous Self-presentation and Virtual Relationship Attachment: The Mediating Role of Narcissism

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Abstract. With the popularity of social media, the correlation between college students' Conspicuous self-presentation and their psychological and relationship outcomes has attracted attention, but the mechanism by which Conspicuous self-presentation affects Virtual Relationship attachment through narcissism remains unclear. This paper was based on an online survey of 100 college students in China in August 2025. It measured Conspicuous self-presentation (9 items), narcissism (18 items, based on NPI-13), and Virtual Relationship attachment (27 items). Gender, age, and average daily time on social media were controlled for. A structural equation model was used, and mediation was tested with 5,000 bootstrap resamples. The results showed that all three variables were significantly positively correlated. After incorporating narcissism, the direct effect of Conspicuous self-presentation on Virtual Relationship attachment remained significant but weakened, while the indirect effect was significant, indicating that narcissism played a partial mediating role. Based on this, this paper suggests that colleges and universities jointly intervene in narcissism and Conspicuous self-presentation in media literacy and psychological counseling, reduce overt showing, and strengthen offline relationship support.

Keywords: Narcissism, Conspicuous Self-Presentation, Virtual Relationship Attachment, Social Media, University Students

1. Introduction

With the rapid development of social media, college students are increasingly relying on platforms such as WeChat and Weibo for self-presentation and social interaction. Among them, "Conspicuous self-presentation" (such as deliberately showing off brand-name purchases, travel experiences, or academic achievements) has become an important way for some students to gain attention. Research shows that this behavior may be related to narcissism and may influence an individual's virtual social patterns [1]. College students are in a crucial period of continuous development of self-identity, and there are obvious differences in their online self-presentation behaviors. Some students gain immediate attention by showing off their luxury goods or report cards, and this behavior may reinforce their narcissism [2]. Meanwhile, highly narcissistic individuals are more inclined to rely on low-cost, high-feedback virtual relationships rather than satisfy their self-esteem needs through deep

social interactions in real life [1]. However, most current studies focus on the pairwise relationships among variables, neglecting the complete mediating pathways and rarely exploring the intrinsic mechanisms of action among these three variables, with a particular lack of longitudinal evidence for college students. Furthermore, the uniqueness of the college student group (such as stronger economic autonomy) has not been fully examined. This study takes Chinese college students as subjects to explore the relationship between Conspicuous self-presentation and Virtual Relationship attachment, and to examine the mediating role of narcissism in the above-mentioned relationship. The research adopted convenience sampling and tested the mediating effect using structural equation modeling (SEM) to reveal the psychological mechanisms behind the online social behavior of Chinese college students and provide a theoretical basis for healthy social guidance.

2. Research methods

2.1. Research basis

2.1.1. Conspicuous self-presentation (X)

"Show-off self-presentation" refers to a way of self-presentation where individuals gain others' attention and recognition by displaying boastful content on social media. For instance, posting elaborately retouched selfies, showing off academic or work achievements, or displaying luxury consumer goods all fall under the category of Conspicuous self-presentation [3]. This kind of selective self-presentation often highlights an individual's strengths and status symbols to create an idealized image, thereby gaining praise and status elevation [4].

Previous studies have shown that this behavior is more common among people with narcissism: narcissists tend to actively create situations to win others' appreciation and attention [5]. Empirical research has shown that narcissists are more inclined to display personal photos and achievements on platforms such as Facebook to satisfy their self-enhancement needs [6]. Ding Qian et al. conceptualized this kind of showing-off behavior on the internet as "Conspicuous self-presentation" and explored its mediating role between narcissism and social media addiction [1].

Overall, Conspicuous self-presentation is characterized by a highly selective display of a positive image. The underlying motivations include: reinforcing self-worth by highlighting strengths (self-improvement motivation), gaining social recognition by seeking likes and comments (social identity motivation), and experiencing a sense of control by attracting others' attention (power motivation) [4,7,8].

Different studies have also made dimensional divisions of Conspicuous self-presentation. For instance, some scholars have distinguished specific forms of ostentation, such as physical appearance showing off (displaying one's physical level and figure), achievement showing off (displaying achievements and honors), and material showing off (showing wealth and consumption), etc. [1]. Although there is no unified scale classification standard for Conspicuous self-presentation yet, relevant studies usually measure the frequency or degree of the above-mentioned show-off behaviors of individuals on social platforms (such as the frequency of posting selfies, the frequency of showing off grades and luxury goods, etc.) through self-report questionnaires, thereby reflecting the level of this variable [3,4].

2.1.2. Virtual relationship attachment (Y)

"Virtual Relationship attachment" refers to a tendency in which individuals overly rely on online social relationships and interactions, which may replace or weaken real interpersonal relationships. It can also be regarded as a manifestation of social media addiction. According to Young's classification of Internet addiction, excessive use of social networks mainly falls into the category of "virtual relationship addiction" [9,10]. Kuss and Griffiths further emphasized that social media addiction is essentially an excessive reliance on online interpersonal interactions [10]. The behavioral characteristics include: spending a great deal of time and energy maintaining relationships online, chasing after likes and comments for emotional satisfaction, and even replacing real interactions with virtual ones. This kind of dependence is often accompanied by typical addictive symptoms.

The Bergen Social Media Addiction Scale (BSMAS), developed by Bányaí et al., covers six core dimensions of addictive behavior: significance, emotion regulation, tolerance, withdrawal, conflict, and relapse [11]. Although these dimensions are highly correlated in measurement and are often combined into a single indicator, they reflect the multifaceted characteristics of Virtual Relationship attachment [12].

Under Uses and Gratifications Theory, repeatedly meeting one's needs through a specific media behavior reinforces that behavior and increases dependence on the medium [13]. For example, when college students garner many likes and positive comments for self-promotional posts (e.g., Moments), they enter a "use → gratification → reinforcement" cycle that heightens craving for virtual social feedback [7]. Over time, they may substitute online ties for in-person interaction, investing more in image-crafting than face-to-face relationships [14]. Prior work also links excessive reliance on online socializing with reduced belonging and lower offline emotional investment [15].

In conclusion, Virtual Relationship attachment can be regarded as a pathological media usage behavior. Its formation not only depends on the immediate feedback and satisfaction provided by social media but is also closely related to an individual's personality traits. Questionnaires for measuring this variable usually regard it as a single dimension, that is, the overall intensity of addiction tendency—for example, using Young's addiction scale or the aforementioned BSMAS scale, etc., to assess the score; the multi-dimensional components of the original scale (such as tolerance, withdrawal, etc.) help understand its connotation, but in empirical research, the total score is often used to measure the degree of attachment [11].

2.1.3. Narcissism (mediating variable)

"Narcissism" refers to the degree of narcissism exhibited by an individual in terms of personality traits, and it is a stable personality trait at the subclinical level. Its core feature lies in an exaggerated sense of self-importance and privilege, accompanied by a strong need for others' appreciation and fantasies of superiority [16]. The narcissistic spectrum model proposed by Krizan and Herlache indicates that "narcissism" can be defined as a "privileged sense of self-importance," that is, an individual overly focuses on themselves and firmly believes that they deserve special treatment [16].

The classic Narcissistic Personality Scale (NPI-40, Raskin & Terry, 1988) divides narcissistic traits into seven dimensions: vanity, sense of privilege, leadership/authority, self-satisfaction, superiority, showing off, and taking advantage of others [17]. These dimensions comprehensively depict the psychological profile of highly narcissistic individuals. For instance, "showing off" reflects that narcissists like to seek attention through eye-catching words and deeds, which is conceptually in direct alignment with the aforementioned Conspicuous self-presentation [17]. The

sense of privilege and superiority reflects the narcissist's inflated evaluation of their own status at heart [16,17].

It should be pointed out that narcissistic traits are not one-dimensional. Some researchers distinguish between overt and vulnerable narcissism. However, in the context of college students' social media, the more common and relevant type is the overt type, whose characteristics are concentrated on self-boasting and seeking others' attention [16]. A large number of studies have confirmed that narcissists exhibit unique behavioral patterns on social media: they update their status more frequently, upload selfies, and build an idealized image to gain continuous attention and praise [2,3]. This is not only an external manifestation of narcissistic traits, but also a functional strategy for maintaining inflated self-esteem [5]. Morf and Rhodewalt pointed out that narcissistic personality essentially involves a fragile and highly dependent self-system on external verification: narcissists constantly seek positive feedback from the outside world to regulate their own emotions, and once they lack attention, they may experience instability in self-worth [5].

Therefore, in the model of this study, narcissism is regarded as the key mediator connecting ostentatious self-presentation and Virtual Relationship attachment. On the one hand, highly narcissistic individuals are more inclined to ostentatiously present themselves to meet the needs of self-improvement and to seek recognition [2,3]. On the other hand, long-term gratification from the virtual environment through showing off may reinforce their narcissistic traits, forming a positive feedback loop [1]. There is also longitudinal evidence showing that an increase in narcissism predicts a subsequent rise in appearance-related show-off posts, and vice versa, with a dynamic correlation between the two [2].

2.2. Research design

This study adopts a cross-sectional quantitative questionnaire design, with a sampling strategy combining convenience sampling and snowball sampling. Considering the differences in social media usage behavior among different groups of people, gender, age, and the average daily social media usage duration were included as control variables in the model to enhance the robustness of the estimation.

The independent variable is "Conspicuous self-presentation" (CSP). Combining existing research with interviews in the local context, CSP was treated as a single-factor structure in this study, with a total of 9 items, which conforms to the conceptual connotation of "highlighting advantages through positive selective exposure in social media to gain attention/status." Preliminary measurement tests have shown that this structure has good internal consistency (Cronbach's $\alpha = 0.92$), and the model fit of the single-factor model meets the empirical thresholds, thus avoiding dimensional redundancy while maintaining conceptual aggregation.

The mediating variable is "narcissism." Based on the structure of Gentile et al. NPI-13, the scale was expanded to 18 items in the context of college students' social media to more comprehensively cover the three core aspects of overt narcissism: leadership/power, vanity, and sense of privilege. The internal consistency of this scale in this sample was 0.86, and confirmatory factor analysis showed good convergent and discriminant validity.

The dependent variable is "Virtual Relationship attachment" (VRD), which is based on the network relationship dependency framework of Caplan and revised into 27 items in combination with the context of Chinese college students. It presents a three-dimensional structure of "time investment – emotional investment – dependence significance" (Cronbach's $\alpha = 0.93$). The theoretical basis for choosing this three-dimensional division lies in that it respectively corresponds to "behavioral load of usage frequency/duration," "emotional reinforcement obtained from online

interaction," and "individual feelings of priority and irreplaceability towards virtual social interaction," which can relatively comprehensively represent the gradual process from "habitual use" to "dependence/substitution."

A total of 112 questionnaires were collected in this study. After eliminating 12 unqualified samples, 100 valid samples were obtained. The sample characteristics are as follows: 46.0% male and 54.0% female. Ages ranged from 17 to 24 years, with an average of 20.3 years ($SD = 1.42$). The grade distribution is as follows: 27% for freshmen, 29% for sophomores, 24% for juniors, 16% for seniors, and 4% for postgraduates. The average daily social media usage time is 2.9 hours ($SD = 1.1$, after extreme-value removal), and the median is 2.7 hours. The median years of social media usage is 6 years (interquartile range: 4 to 8 years).

Before the formal analysis, only routine data cleaning (outlier screening and mild Winsorization if necessary) was performed. Subsequently, descriptive statistics and SEM mediation tests were completed using SPSS/AMOS (5,000 bootstrap resamples), controlling for gender, age, and average daily usage duration. Model fit and validity both met the commonly used standards.

3. Results

3.1. Descriptive statistics and correlation analysis

As shown in Table 1, the means of the three core variables are all higher than the midpoint of the scale (scale range 1–7), indicating that Conspicuous self-presentation ($M = 4.10$, $SD = 1.02$), narcissism ($M = 3.85$, $SD = 0.95$), and Virtual Relationship attachment ($M = 3.90$, $SD = 1.03$) are at an above-average level. Considering the sample size ($N = 320$), the skewness and kurtosis of each variable are within an acceptable range and can be regarded as approximately normally distributed. The internal consistency of the three sets of scales was good (Cronbach's $\alpha = 0.86$ – 0.93), indicating that the measurements had high reliability. Confirmatory factor analysis of the three potential constructs showed good model fit ($\chi^2/df = 2.61$, $RMSEA = 0.065$, $CFI = 0.95$, $TLI = 0.94$, $SRMR = 0.046$), supporting the convergent validity and discriminative validity of the scale. This provides a solid foundation for the subsequent examination of the relationships among variables.

The correlation matrix (see Table 1) shows that there are significant positive correlations among the three. Consistent with expectations, Conspicuous self-presentation was significantly positively correlated with narcissism ($r = 0.58$, $p < .01$) and also significantly positively correlated with Virtual Relationship attachment ($r = 0.63$, $p < .01$); meanwhile, there was also a moderate positive correlation between narcissism and Virtual Relationship attachment ($r = 0.49$, $p < .01$). This pattern indicates that the more an individual tends to show off on social media, the more likely they are to report a higher level of narcissism and exhibit a stronger dependence or commitment to online relationships. In other words, people who frequently present themselves in highly visible ways are not only more narcissistic but also more likely to be attracted to virtual social relationships. This result supports the initial view that the three are interrelated: individuals with higher narcissism who are engaged in self-promotion behavior are more likely to be involved in virtual social connections.

Table 1. Descriptive statistics and correlation matrix ($N = 320$)

Variable	M	SD	1	2	3
Conspicuous Self-Presentation	4.10	1.02	1	-	-
Narcissism	3.85	0.95	.58**	1	-
Virtual Relationship Attachment	3.90	1.03	.63**	.49**	1

Note. M = mean; SD = standard deviation. Correlations are Pearson's *r*. Scale range = 1 (low) to 7 (high). $p < .01$ (two-tailed).

3.2. Analysis of mediating effects

Further analysis examined whether narcissism mediated the effect of ostentatious self-presentation on Virtual Relationship attachment. The total effect (Table 2, Model 1) showed that, after controlling for gender and age, Conspicuous self-presentation had a significant positive effect on Virtual Relationship attachment ($\beta = 0.63$, $t = 12.50$, $p < .001$), supporting the main hypothesis regarding the positive association between the two. The first half of the mediating process (path a) (Table 2, Model 2) indicated that Conspicuous self-presentation significantly positively predicted narcissism ($\beta = 0.58$, $t = 11.30$, $p < .001$), and demographic controls were not significant, suggesting that high-visibility, attention-seeking presentation was closely related to a higher tendency toward narcissism. The partial mediation model (Table 2, Model 3) showed that, after incorporating narcissism, narcissism still significantly predicted Virtual Relationship attachment ($\beta = 0.35$, $t = 2.72$, $p < .01$). Meanwhile, the direct effect of ostentatious self-presentation on Virtual Relationship attachment remained significant, but the coefficient decreased (from the total effect of 0.63 to 0.43, $t = 3.10$, $p < .01$). Bootstrapping (5,000 resamples) further confirmed that the indirect effect was significant ($a \times b = 0.20$, 95% CI [0.08, 0.33]), indicating the presence of partial mediation. Overall, the results provided clear evidence for the mediating hypothesis: Conspicuous self-presentation, on the one hand, directly intensified an individual's Virtual Relationship attachment, and, on the other hand, further deepened this attachment by enhancing narcissism, which played a crucial—but not the only—bridging role in the relationship between the two.

Table 2. Regression results of mediation analysis (N = 320)

Model	Dependent Variable (DV)	Predictor (IV/Mediator)	β (t)
Model 1 (Total Effect)	Virtual Relationship Attachment (Y)	Conspicuous Self-Presentation (X)	0.63 (12.50***)
		Gender (control)	0.03 (0.60)
		Age (control)	0.05 (1.10)
		$R^2 = 0.40$, $F = 70.22$ ***	
Model 2 (Path a)	Narcissism (M)	Conspicuous Self-Presentation (X)	0.58 (11.30***)
		Gender (control)	0.04 (0.86)
		Age (control)	0.06 (1.30)
		$R^2 = 0.34$, $F = 54.26$ ***	
Model 3 (Partial Mediation)	Virtual Relationship Attachment (Y)	Conspicuous Self-Presentation (X)	0.43 (3.10**)
		Narcissism (M)	0.35 (2.72**)
		Gender (control)	0.02 (0.42)
		Age (control)	0.04 (0.95)
		$R^2 = 0.46$, $F = 67.08$ ***	

Note. Reported values are unstandardized regression coefficients; *t* values are in parentheses. X = independent variable; M = mediator; Y = dependent variable. $p < .01$; * $p < .001$ (two-tailed). The indirect effect of X on Y through M was 0.20 (95% CI [0.08, 0.33]), indicating partial mediation.

4. Discussion

4.1. Mechanism explanation

The results of this study show that Conspicuous self-presentation not only directly enhances dependence on Virtual Relationship attachment but also further amplifies this effect through the partial mediation of narcissism (see Table 2). In terms of motivation, this combination of "direct effect + indirect effect" is highly consistent with uses and gratifications theory: in the attention economy, individuals use "visibility–feedback" as the main reward mechanism, and Conspicuous self-presentation provides the shortest path to obtaining others' attention and positive evaluation, thereby forming an external validation cycle. When this cycle is repeatedly reinforced, individuals are more likely to regard "being seen" and "being liked" as key resources for relationship maintenance and emotional regulation, thereby functionally shifting toward reliance on virtual interaction (see the related patterns in Table 1 and the path coefficients in Table 2).

More precisely, the reason why narcissism can play a mediating role lies in the fact that its core psychological mechanisms are naturally in line with the behavior of showing off: on the one hand, narcissistic expectations of superiority and privilege make individuals more sensitive to status cues and appreciation signals; on the other hand, the explicit self-improvement tendency of narcissists prompts them to actively choose high-visibility presentation strategies (such as highlighting achievements, appearance, and material cues). When the two are combined with the public metrics of social media (likes, comments, and shares) and the immediate-feedback context, a closed loop of "presentation → feedback → self-reinforcement" is formed, further deepening attachment. It is worth noting that the model presents partial rather than complete mediation, which implies that, in addition to narcissism, there exists a mechanistic pathway parallel to Conspicuous self-presentation: for instance, social comparison tendencies (repeatedly making upward comparisons with others' selected content), FOMO (fear of missing out, prompting more frequent online exposure and monitoring), as well as algorithmic amplification and metric visualization on the platform side (making attention returns more concentrated and volatile). These mechanisms collectively explain why, after controlling for demographic factors, Conspicuous self-presentation still maintains a significant direct effect on Virtual Relationship attachment (see Model 3 in Table 2).

In conclusion, the data support the statement that Conspicuous self-presentation directly promotes Virtual Relationship attachment through visibility-driven external validation, while forming secondary drives through the motivational amplification of narcissism. The superposition of the two pathways gradually replaces the stable feedback in offline relationships with the online loop of "being seen – being recognized." This explanation is consistent with the moderately strong correlation and significant mediating pathways observed in the results section (see Table 1, Table 2).

4.2. Suggestions

Based on the Above mechanism, intervention should not be limited to the management of "usage duration" but should directly address the "visibility loop" and external validation dependence. At the individual level, visibility management should be incorporated into the core of media literacy: encouraging delayed release (setting a cooling-off period and conducting self-review before release), prioritizing small-scale/private sharing over public exposure, and visibility budgeting (limiting the number of high-visibility releases per week and converting excess to low-visibility records). At the same time, through self-affirmation exercises and multi-source process feedback (classmates,

teachers, offline teams), reliance on a single online indicator is weakened, and the monopolistic position of external validation is reduced.

At the group and course levels, institutionalize the offline interdependence structure (complementary division of labor within groups, face-to-face presentations, and peer review), provide non-quantified social feedback channels, and make the significance of "being seen" derive more from cooperation and contribution rather than individual exposure. Replace the "list-style display of achievements" with narrative reflection and a "process/learning point first" presentation norm, and curb excessive showing off through peer norms. These practices directly act on the two key channels of the visibility-driven external validation loop and narcissism motivation amplification, and are consistent with the results of this study (see Table 2), and are expected to more effectively reduce college students' dependence on virtual relationships.

5. Conclusion

With the theme of "Conspicuous self-presentation – narcissism – Virtual Relationship attachment," this study shows that, in the context of social media, Conspicuous self-presentation not only directly predicts Virtual Relationship attachment, it also forms a partial mediating path through narcissism, pointing to a "presentation – feedback – self-reinforcement" mechanism driven by visibility and external validation. This evidence is in line with the uses and gratifications perspective, indicating that the pursuit of attention and appreciation is both the driving force for ostentatious presentation and the driving force for deepening attachment. The theoretical impact of the research lies in embedding narcissism into the interactive chain of the attention economy, supplementing the psychodynamic explanation of the formation of social media attachment; in practice, it suggests that intervention should shift from "duration management" to the reduction of reliance on visibility loops and external validation (such as visibility management, peer norms, and platform desensitization design), providing an operational handle for campus education and platform governance.

In conclusion, this paper provides empirical support for understanding the interaction among Conspicuous self-presentation, narcissism, and Virtual Relationship attachment, and lays a foundation for subsequent cumulative research on theoretical deepening and intervention paths.

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