

# Consumer Engagement on Social Networking Sites: The Antecedents and Mediating Mechanism

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## ABSTRACT

In spite the significance of consumer engagement that scholars have recognized, there is a gap in understanding the influencing factors of consumer social networking engagement behaviors. In the light of social identity theory, this study considered susceptibility to interpersonal influence (SIPI) and self-expressive brands (SEBs) on consumer social networking engagement behaviors. Data from our research demonstrated that SEBs and SIPI were positively related to brand attachment, which also impacted liking, sharing, and commenting on social networking sites (SNS). In addition, brand attachment played a positive mediating role among SEB, SIPI, and consumer engagement on SNS. The research explores the factors affecting consumer engagement on SNS with a new insight and guides brand managers to seek efficient ways to drive consumers to engage on online social networks.

## KEYWORDS:

Social Networking Sites, Self-Expressive Brand, Consumer Engagement, Brand Attachment, Susceptibility to Interpersonal Influence

## INTRODUCTION

It is easy to have different understandings of brands, which may be brands of goods or brands of social networking sites. The advent of social networking sites (SNSs) not only changes the interaction mode between consumers and brands but also provides new ways for potential consumers to engage (Demmers et al., 2020). With the help of SNSs, an efficient and close electronic connection can be established between personal choice and brand (Noë et al., 2016). As Malhotra et al. (2013) pointed out, SNS has become a key channel for brand promotion, which can improve the consumer

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engagement on the one hand, and also significantly enhance the brand's popularity in the market on the other hand. The amounts of liking, sharing, or commenting are a powerful indicators of consumer engagement on SNSs (Hoffman & Fodor, 2010; Malhotra et al., 2013; Demmers et al., 2020). As SNSs provide opportunities and platforms for a considerable number of enterprises and marketers to attract customers, it also arouses researchers' interest in related topics, such as customer engagement on SNSs (Rabbanee et al., 2020; Bailer et al, 2021; Lim & Rasul, 2022; Read, et al, 2021).

Research on the antecedents of engagement on SNSs in recent years has opened avenues (Dessart, 2017). To a certain extent, SNSs are so popular because consumers can communicate with the surrounding environment and show themselves on SNSs (Leckie et al., 2016). Sprott et al. (2009) held that the customer's self-concept can play an important role in engagement because consumers are more willing to regard brand as a component of their self-cognition. On SNSs, many consumers who often interact with brands say that they "like" these brands in order to establish their self-expression online (Wallace et al., 2014). SNS members can not only strengthen the ability of self-expression and presentation through the network (Ruane & Wallace, 2013; Choi & Burnham, 2020), but also carry out online real-time interactions with others and carry out larger-scale social activities (Dennis et al., 2010). In conclusion, it is clear that consumers engagement with brands can vary. The current study simply considers the role of brand self-expression and does not take into account the role of being influenced by others in social networks at the same time. Only by taking these two aspects into account can we better explain the reasons for consumer engagement.

Moreover, Putnam (1995) wrote that a consumer's need for emotional connection would stimulate their interest in engaging in community activities, which shows that it will affect consumer engagement. According to Dessart et al. (2015), many consumers want to take the opportunity to establish emotional connections with their favorite brands. That is, consumers may have emotional attachments to the brands in the interactive process, although brand attachment formed on SNSs has not attracted the attention of many scholars (Wang et al, 2016). At this stage, brand attachment and customer engagement are only considered independently (Hinson et al., 2018). As there is little existing research on this aspect, incorporating the mediating mechanism of brand attachment contributes to identifying consumer engagement behavior on SNSs (Rabbanee et al., 2020).

Given these research gaps, our research aims to explore the factors that affect consumer engagement on SNSs, taking two aspects (oneself and others) into consideration. This study differs from previous works that focused only on the consumer need for self-expression, in that it combines the impact of others to deeply understand the consumers' SNS behaviors and identify the potential influencing factors. Moreover, this study verifies the relationships between brand attachment and consumer engagement on SNS. We also ascertain mediating effects of brand attachment in these relationships. Thus, we focus on how SEBs and SIPI affect their emotional attachment and consumer SNS behaviors. Generally speaking, this study is conducted on the basis of the influence of self and others, of which the conclusion can deepen the understanding of consumer SNS behaviors to a certain extent and provide great help for brand managers to attract consumers to engage on online social networks.

The contributions of the study are as follows: Firstly, the research considers the role of brand self-expression and the role of being influenced by others in social networks at the same time. Taking these two aspects into account, we can better explain the reasons for consumer engagement. Further, we further deepen the study of Leckie et al. (2016) as our research examines the impacts of the inner self and social self on consumer engagement on social networking sites. Secondly, our contribution depends on the inclusion of brand attachment as a mediator in the research framework with a fuller picture of consumer social networking engagement behaviors. The mediator effects are advanced and tested empirically, including the relationship among SEBs (inner self and social self) and SIPI (normative influence and information influence) on liking, sharing, or commenting on SNSs. The third contribution is marketing advice regarding consumer social networking engagement behaviors. Although brands on social networks consider that engaging customers is important for their viability in

the long term, scant practical advice can be offered by the extant academic literature for management with regard to the value of doing so and the way to engage customers. The research findings here make such suggestions possible.

## LITERATURE REVIEW

### Consumer Engagement

The concept of customer engagement, over the past ten years, has attracted increasing attention from both researchers and marketing practitioners. Customer engagement is an emerging concept in the field of management, which originates from sociology, organizational behavior, psychology, and so on (Bitter & Grabner-Kräuter, 2016). Brodie et al. (2011) reviewed this concept for the purpose of establishing an effective definition: As a psychological state customer engagement happens by means of co-creative and interactive customer experiences in focal service relationships with a focal object or agent (e.g., a brand). The emotional nature of customer engagement was indicated by Sprott et al. (2009) as an individual difference representing consumers' propensity to include important brands as part of how they view themselves. We define *consumer engagement* as the level of consumer participation in a firm's activities or offerings (Wongkitrungrueng & Assarut, 2020). The company will benefit from consumer engagement to get close to the individual information of consumers, encourage consumers to get more involved in its marketing program and provide related marketing communication (Pansari & Kumar, 2017).

Customer engagement has been identified by the Marketing Science Institute as a major study area that contributes to understanding consumer behavior in interactive scenes (Bitter & Grabner-Kräuter, 2016). In the context of social networking sites, and in response to branded content to capture consumer engagement, most studies apply behavioral metrics like sharing, liking, and commenting (De Vries et al., 2012; Demmers et al., 2020; Chauhan & Pillai, 2013; Bonsón & Ratkai, 2013; Luarn et al., 2015; Lee et al., 2015). A post's reach is increased by higher engagement on brand pages, since it is pivotal in metrics that are applied in Facebook's News Feed algorithm. Consumer engagement volumes reflect how consumers feel about the branded content and to what extent consumers would like to interact with the brand, even though the numbers of comments or likes on brand posts do not translate into conversions directly (Demmers et al., 2020). Engaged customers who like, comment, and share content generated by the brand constitute a fundamental, potential source of competitive advantage.

### The Antecedents of Consumer Engagement

Over the past few years, researchers have given more attention to the motivational factors related to consumers getting involved with social networks, such as brand self-expression (Algharabat et al., 2020; Wallace et al., 2014), trust (Muhammad et al., 2021), attachment (Rabbanee et al., 2020; VanMeter et al., 2018), information acquisition (Rohm et al., 2013; Vander Shee et al., 2020; Gavilanes et al., 2018), and entertainment (Muhammad et al., 2021; Azar et al., 2016). Consumer self-brand expression has been shown to be a significant determinant of their engagement behavior (Leckie et al., 2016; Ruane & Wallace, 2015; Choi & Burnham, 2020). Consumers identify brands that align with their own identities through engaging in some related activities (Algharabat et al., 2020). In line with Algharabat et al. (2020), we considered the customer's perception of the extent to which a particular brand has an effect on consumer social networking engagement behaviors.

Through social networking platforms, on the one hand, brands can situate themselves as parts of individual networks of consumers. On the other hand, they can also bring consumers chances to socialize with the network and company with other fans. Another variable is the susceptibility of a consumer to interpersonal influence, which does well to explain social relationships' influence on consumer engagement on SNS as sources of information focused on products (Chu & Kim,

2011). Already such means have been used in research on consumer behavior on social networks, for example, for the purpose of determining the way that consumers use to exchange information on brands (Scaraboto, 2012). Moreover, it can be seen from the viewpoint of Zhao (2021) that individuals highly susceptible to informative and normative effects had more possibility to engage on online social networks. Consumers who show a higher level of susceptibility to interpersonal effect are more likely to become engaged in peer recommendations, compared with those less subject to interpersonal influence (Chu & Kim, 2011).

We put forward a framework to consider two broad categories of antecedents to a consumer's engagement on SNSs: the self and the influence of others. It was considered that self-brand expression and susceptibility to interpersonal influence, in order to further enhance the understanding of the intention of consumers to get themselves engaged on SNS. Considering the widespread use of social networks today, our understanding of the antecedents of customer engagement would benefit from a closer study of the differences between social network platforms.

## RESEARCH HYPOTHESES

### Self-Expressive Brands on Social Networks

Self-expressive brands reflect “the customer's perception of the extent to which a particular brand promotes the social self and the internal self” (Carroll & Ahuvia, 2006, p. 82). According to their division, self-expressiveness has two components: the social self and inner self. With the popularity of SNSs, a lot of consumers could extend their self-concepts in the network environment (Ruane & Wallace, 2015; Wallace et al., 2021). Social networks allow individuals to express themselves through their posts and the connections that they build on the network (Choi & Burnham, 2020). Individuals' use of certain brands can help enhance private and public self-concept (Moliner et al., 2018). It is worth mentioning that Loureiro et al. (2012) believed that the ability of self-expression is not only related to the matching degree between brands and customers' self-concept of inner self but also the degree to which brands enable the consumer to reflect the social self.

Regarding SNSs, Wallace et al. (2014) pointed out that consumers who express their opinions by using the “like” feature in social networks generally believe that self-expression brands (inner self and social self) can deepen consumers' emotional connection to brands. The relationship between consumers and brands could be strengthened by improving the potential for self-expression (Trusov et al., 2009). Lee and Workman (2015) verified the relationships between self-expressive brands and brand attachment. Wallace et al. (2014) pointed out that inner self and social self were positively related to brand love on the Facebook social network, and these were “real” brand relationships, in which consumers genuinely could be attached to the brands. To sum up, perceptions of both types of SEBs promote the generation of brand attachment. Thus, we hypothesize that:

H1. The level of inner self has a positive influence on brand attachment.

H2. The level of social self has a positive influence on brand attachment.

### Susceptibility to Interpersonal Influence

Susceptibility to interpersonal influence is defined as the need for individuals to know their own personal image in order to understand others' views of themselves and whether they meet others' expectations of themselves (Bearden et al., 1989). In essence, SIPI proves that individuals can identify brands by observing other consumers or soliciting opinions from relatives and friends (Sharma & Klein, 2020). SIPI is divided into two dimensions: information influence and normative influence (Sari, 2018). *Normative influence* reflects consumers' tendency to follow other individuals' expectations, and *information influence* refers to people's tendency to accept others' information owing to its credibility (Hoffmann & Broekhuizen, 2009). Wang et al. (2012) believed that participant communication through

SNS has normative and information influence. Among them, normative influence will subtly change the members' emotional attitudes and even behavioral intentions, so as to achieve group norms. In contrast, information influence will have a direct impact on their understanding and evaluation of products or services.

The consumer who has a strong SIPI may be more inclined to create a strong emotional connection to the brand that displays a personal image (Swimberghe et al., 2014) and considers choosing brands with the characteristics that satisfy others (Lertwannawit & Mandhachitara, 2012). Kessous and Valette-Florence (2019) noted that the expectation to adapt oneself to normative effect is rooted in an eagerness to get close to a kind of social status and, in turn, elicits a stronger emotional response in the form of brand attachment. Though limited research has studied the relationship between information influence and brand attachment, several past studies have proved the effect of normative and information influence on affective behavioral components (Belk et al., 2003; Thomas & Vinuales, 2017; Sharma & Klein, 2020). For instance, Belk et al. (2003) conducted a further analysis based on the existing studies on interpersonal influence and drew the following conclusion: in the social environment, consumers' emotional attachment to products or brands tends to be more obvious in interpersonal influence. As such, individuals with high interpersonal sensitivity are more likely to have passionate desires for products or brands (Swimberghe et al., 2014). Thus, we hypothesize that:

H3. The level of normative influence has a positive influence on brand attachment.

H4. The level of information influence has a positive influence on brand attachment.

### **The Mediating Role of Brand Attachment**

Scholars hold brand attachment as a crucial factor in the consumer–brand relationships, especially in online social network environments (Filiari et al., 2015; Jain et al., 2018). Brand attachment refers to the degree of intimacy between brands and consumers' perception of self (Li et al., 2020). Individuals who engage with brands intend to press Like on SNSs, so their interaction aims to improve online self-expression (Wallace et al., 2014). The higher the degree of personal attachment to the brand, the more likely it is for individuals to gradually change from self-centered to mutually beneficial relationships with brand-sharing resources (Park et al., 2010). Besides this, high brand attachment can bring consumers more satisfying experiences, make them generate positive comments on the brand (Belaid & Behi, 2011), and even increase consumer behavior commitment (Li et al., 2020). In that case, a consumer that can express self-concept (inner self or social self) is more likely to attach to brands, which improves a consumer's tendency to like, share, or comment (Rabbaneh et al., 2020; Cvjikj & Michahelles, 2013).

Consumers who are sensitive to interpersonal influence tend to form brand awareness (Moon et al., 2017). What prompts consumers to attach to certain brands is their openness toward altered states of being, involving a series of changing social relationships (Belk et al., 2003). Drawing from emotional attachment theory, individuals' attachment to specific objects will have an impact on their interaction with those objects (Li et al., 2020). Therefore, consumers who are highly dependent on brands are more willing to take time to participate in the activities organized by brand communities or to promote their brands through social media (Park et al., 2010). In accordance with Li et al. (2020), brand attachment is associated with customer engagement in the context of social media. Specifically, when consumers are fond of certain brands, more likes will appear on the company's Facebook page (Lee et al., 2015). Therefore, customers are attached to a brand due to normative or informative influence in the network environment, and this tends to improve consumer engagement on SNSs.

To sum up, brand attachment could be regarded as an important medium to connect the association among SEBs, SIPI, and consumers' tendency to like, share or comment. Combined with the intermediary hypothesis path, it is assumed that:

- H5. Brand attachment has a mediating role in the impacts of SEBs (inner self and social self) on liking, sharing, and commenting.
- H6. Brand attachment has a mediating role in the impacts of SIPI (normative influence and information influence) on liking, sharing, and commenting.

The theoretical framework of this paper is shown in Figure 1, and the hypotheses proposed in this paper will be demonstrated in the following sections.

## RESEARCH METHODOLOGY

### Data Collection and Sample

Similar to other social networks, users can communicate online on Sina Weibo, send Weibo anytime and anywhere, and share their feelings and experiences. Collecting the data from Sina Weibo, this paper explores the relationships among SEBs, SIPI, and consumers' online social behavior, considering the mediating effects of brand attachment. In the selection of research objects, this paper mainly took from Weibo users among the Chinese population, powered by www.wjx.cn. And the questionnaires were filled in anonymously to make privacy protection for each interviewee. In line with Astakhova et al. (2017), the survey used open-ended questions to encourage respondents to fill in their favorite brands and complete other items in the questionnaire. The respondents could receive small gifts as rewards after completing the survey. The upper right corner showed the time taken by a respondent to complete a questionnaire. To ensure the validity of the sample, one screening question (asking whether each respondent is a Weibo user) was specially designed.

The survey period lasted for four weeks, and we sent out 707 questionnaires. 610 valid questionnaires were collected. The characteristics of the samples can be seen in Table 1. The greatest proportion of respondents, about 49.5%, were 18–25 years old, followed by respondents who were 26–35 (34.6%). The sample consisted of 65.7% female and 34.3% male consumers. Also, 61.8% of respondents had earned bachelor's degrees, followed by respondents with master's degrees.

### Measures

This study was mainly based on the individual level, using a self-administered questionnaire as a survey tool to verify the feasibility of the above hypotheses and research framework. The measurement of the

Figure 1. Conceptual model

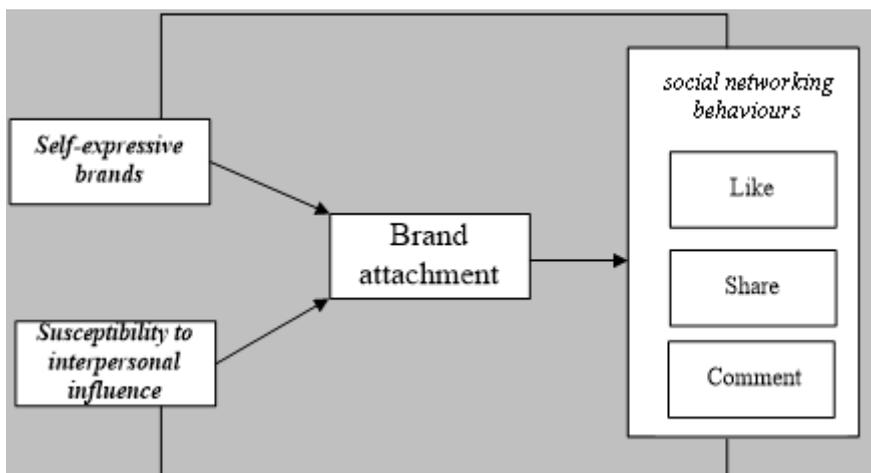


Table 1. Characteristics of the samples

Criteria	Number	Percentage (%)
<b>Sex</b>		
Male	209	34.3%
Female	401	65.7%
<b>Age</b>		
< 18	3	0.5%
18–25	302	49.5%
26–35	211	34.6%
36–45	53	8.7%
> 45	41	6.7%
<b>Education</b>		
Junior high school or lower	4	0.7%
High school/technical school	12	2.0%
College degree	28	4.6%
Bachelor	377	61.8%
Master's degree	153	25.1%
Doctoral degree	36	5.9%
<b>Occupation</b>		
Student	295	48.4%
Government or public institution employees	124	20.3%
Enterprise staff	110	18.0%
Self-employed	12	2.0%
Others	69	11.3%

research constructs mentioned above was based on existing research, and the questionnaire content has been adjusted. To improve the accuracy of each translation, we also sought the help of English teachers before the questionnaires were sent out. The questions were translated into Chinese, and appropriate modifications were made according to the teachers' suggestions. In addition, we specially invited experts and scholars in the field and some consumers so as to guarantee content validity; see Appendix 1 for details. Then, in order to ensure that the structure was reasonable and reliable, we also carried out a pretest, selecting thirty college students as the research object. Combined with the research results of the pretest, some of the questions were modified to increase readability.

The survey starts with the Weibo scene, asking questions reflecting SEB (social self and inner self), SIPI (normative influence and information influence), consumers' tendency to like, share, or comment, and brand attachment, followed by demographic information. Regarding SEBs, the measures presented by Carroll and Ahuvia (2006) were applied with eight measures of inner and social self-expression. The SIPI measures were taken from Bearden et al. (1989) as well as Ruane and Wallace (2015), which measure normative and information influence. Brand attachment was measured using the terms of Malaer et al. (2011), with statements taking the form, "My feelings toward the brand can be characterized by affection." Online social behaviors were measured using the scales of Rabbanee et al. (2020) and Cvijikj and Michahelles (2013). A total of nine items are used to assess likes (3 items), shares (3 items), and comments (3 items) using a five-point Likert scale.

## DATA ANALYSIS AND MAIN RESULTS

### Measurement Model

Reliability was tested to evaluate the internal consistency of every construct. Reliability statistics indicated that Cronbach's  $\alpha$  values were all higher than 0.70 suggested by Hair et al. (2006): inner self (0.90), social self (0.89), normative influence (0.79), information influence (0.81), brand attachment (0.93), like (0.94), share (0.94), and comment (0.90). Consequently, all constructs in the measurement model have good reliability.

Exploratory factor analysis was conducted to delete certain terms that possessed low factor loadings. After that, the primary purpose of the confirmatory factor analysis is to validate the measurement. It is assumed that the distribution of observed variables presents multi-normality. Kline (2017) pointed out that skewness and kurtosis should be tested to grasp the deviation from normal. When skewness is between -1.36 and 0.43, kurtosis is between -1.21 and 2.42. Therefore, since the kurtosis value is below 20 and the skewness is less than 3, all the measures in this study meet the assumption of maximum likelihood (ML) estimation.

CFA was performed using ML estimation, with the purpose of examining the validity of every structure above. As a result, BAT1 and NI1 were deleted. Based on the acceptable threshold in the existing research, it is not difficult to find that the model has a good fit:  $\chi^2 = 727.902$ ,  $df = 319$ ,  $p < 0.01$ , CFI=0.97, TLI=0.97, IFI=0.97, GFI=0.92, RMSEA=0.05, thus the measurement model can be regarded satisfactory.

In addition, the standardized factor load was larger (greater than the 0.5 threshold), with statistical significance ( $p < 0.01$ ). And the composite reliability values are above 0.70 (shown in Table 3), representing internally consistent. Except for Normative influence, the average variance extracted (AVE) of all the variables is not only above 50% but also exceeds squared correlations of the two potential variables (Table 4). Factor loading, CR, and AVE should be taken into consideration in the judgment of construct convergent validity. Generally speaking, factor loading is higher than 0.5, CRs are above 0.6, AVE greater than 0.5 shows good CV (Fornell & Larcker, 1981). These values above imply the models' discriminant validity. On the whole, these constructs reflect the acceptable level of the measurement scales.

Common method bias was tested by two methods. Firstly, this research performed principal component analysis adopting Harman's single factors test. The first factor tested just 24.520% of the variance for the sample. Therefore, common method bias did not appear to be present. Secondly, we tested CFA with single-factor model, which showed that the goodness of fit of the model is obviously reduced ( $\chi^2 = 2619.909$ ,  $df = 344$ , GFI = 0.72, CFI = 0.84, TLI = 0.82, IFI = 0.84, RMSEA = 0.10), compared with the multi-factor model. It is concluded that the common method bias has no significant effect on the relationship between variables in this study.

### Structural Model

The ML estimation and AMOS 21 were adopted to test the hypothesis by the structural equation model. The model shows that SEBs and SIPI have an effect on brand attachment and even affect the tendency of consumers to like, share or comment on Weibo websites. The model fit indices show  $\chi^2 = 1262.580$ ,  $df = 399$ ,  $p < 0.01$ . In addition, the goodness of fit of the model is acceptable (GFI = 0.87, CFI = 0.93, TLI = 0.93, IFI = 0.93, RMSEA = 0.07).

The hypotheses of the structural model can be seen in Table 5. The factors significantly associated with brand attachment included inner self-expression ( $\beta = 0.47$ ;  $p < 0.001$ ), social self-expression ( $\beta = 0.42$ ;  $p < 0.001$ ), and normative influence ( $\beta = 0.12$ ;  $p = 0.002$ ), whereas information influence ( $\beta = 0.01$ ;  $p = 0.709$ ) is not. By analyzing the influence of brand attachment on the SNS behaviors, we found that brand attachment was positively related to "like" ( $\beta = 0.59$ ;  $p < 0.001$ ), "share" ( $\beta = 0.62$ ;  $p < 0.001$ ) and "comment" ( $\beta = 0.62$ ;  $p < 0.001$ ), thereby these results of the fit indices provide support to H1, H2, H3.

Table 2. Results of exploratory factor analysis

Item	Factor Loading					
	1	2	3	4	5	6
NS1	0.240	0.212	<b>0.773</b>	0.229	0.091	0.025
NS2	0.198	0.234	<b>0.752</b>	0.330	0.096	0.035
NS3	0.171	0.170	<b>0.807</b>	0.140	0.107	0.098
NS4	0.250	0.250	<b>0.740</b>	0.324	0.089	0.037
SS1	0.211	0.158	0.386	<b>0.693</b>	0.114	0.069
SS2	0.215	0.224	0.264	<b>0.768</b>	0.163	0.070
SS3	0.229	0.196	0.265	<b>0.775</b>	0.139	0.032
SS4	0.258	0.269	0.188	<b>0.720</b>	0.207	0.010
NI1	0.058	-0.023	0.121	0.013	<b>0.801</b>	0.097
NI2	0.070	0.142	0.048	0.224	<b>0.715</b>	0.064
NI3	0.076	0.112	0.089	-0.005	<b>0.816</b>	0.110
NI4	0.124	0.167	0.037	0.339	<b>0.691</b>	0.016
II1	-0.001	0.005	0.075	-0.025	0.070	<b>0.845</b>
II2	0.052	0.043	0.021	0.070	0.135	<b>0.865</b>
II3	0.086	0.040	0.040	0.064	0.057	<b>0.822</b>
BAT2	0.328	<b>0.753</b>	0.327	0.150	0.104	0.073
BAT3	0.352	<b>0.735</b>	0.257	0.213	0.098	0.058
BAT4	0.378	<b>0.770</b>	0.178	0.237	0.130	-0.008
BAT5	0.348	<b>0.684</b>	0.274	0.195	0.133	0.070
BAT6	0.352	<b>0.750</b>	0.116	0.221	0.135	-0.008
LK1	<b>0.797</b>	0.224	0.255	0.102	0.081	0.025
LK2	<b>0.823</b>	0.148	0.259	0.109	0.068	0.023
LK3	<b>0.843</b>	0.114	0.249	0.104	0.073	0.048
SH1	<b>0.841</b>	0.212	0.195	0.113	0.061	0.069
SH2	<b>0.854</b>	0.216	0.156	0.111	0.058	0.048
SH3	<b>0.848</b>	0.199	0.145	0.153	0.055	0.044
COM1	<b>0.844</b>	0.223	0.071	0.175	0.036	-0.006
COM2	<b>0.783</b>	0.262	-0.011	0.224	0.053	-0.025
COM3	<b>0.742</b>	0.198	-0.010	0.149	0.126	0.075
Eigenvalue	7.111	3.548	3.297	3.046	2.582	2.229
Accumulated percentage of explained variance (%)	24.520	36.756	48.125	58.629	67.534	74.186

### Mediating Test

This study analyzed the mediating role of BAT in the relationships among SEBs, SIPI, and social networking behaviors, following the method used by Trivedi and Sama (2020) and Shrout and Bolger (2002), among others, using bootstrapping ( $n = 5000$  at 95% confidence interval) via AMOS 21. In

Table 3. Results of confirmatory factor analysis

Construct	Items	Stand. Loadings	t-value	CR	AVE
Inner self (NS)	NS1	0.843	—	0.90	0.69
	NS2	0.847	25.14		
	NS3	0.750	20.90		
	NS4	0.885	27.46		
Social self (SS)	SS1	0.830	—	0.90	0.70
	SS2	0.843	24.30		
	SS3	0.834	23.98		
	SS4	0.838	20.30		
Normative influence (NI)	NI2	0.693	—	0.75	0.51
	NI3	0.631	12.78		
	NI4	0.802	14.14		
Information influence (II)	II1	0.732	—	0.82	0.60
	II2	0.864	16.28		
	II3	0.714	15.74		
Brand attachment (BAT)	BAT2	0.868	—	0.93	0.73
	BAT3	0.867	28.56		
	BAT4	0.894	30.40		
	BAT5	0.818	26.11		
	BAT6	0.823	26.22		
Like (LK)	LK1	0.878	—	0.94	0.85
	LK2	0.942	35.90		
	LK3	0.940	35.80		
Share (SH)	SH1	0.907	—	0.94	0.85
	SH2	0.932	39.77		
	SH3	0.925	37.78		
Comment (COM)	COM1	0.923	—	0.88	0.71
	COM2	0.845	29.78		
	COM3	0.756	23.97		

order to verify the existence of mediating effect, firstly, there is a need to ensure that independent variables influence mediating variables directly; secondly, mediating variables also influence dependent variables directly. The research results show that both conditions are verified. If the direct impacts of SIPI and SEBs on LK, SH, and COM turn out not to be supported, or their impacts are reduced, which means it is partially mediated or fully mediated. The evaluation results of the models are shown in Table 6. It is proved that brand attachment mediates the relationships among SEBs, SIPI, and online social behavior.

Table 4. Correlations and square root of AVE

Construct	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>
NS(X1)	<b>0.83</b>							
SS(X2)	0.65**	<b>0.84</b>						
NI(X3)	0.31**	0.43**	<b>0.71</b>					
II(X4)	0.15**	0.14**	0.20**	<b>0.77</b>				
BAT(X5)	0.61**	0.62**	0.38**	0.13**	<b>0.85</b>			
LK(X6)	0.50**	0.48**	0.24**	0.11**	0.61**	<b>0.92</b>		
SH(X7)	0.47**	0.47**	0.24**	0.13**	0.63**	0.83**	<b>0.92</b>	
COM(X8)	0.39**	0.46**	0.25**	0.09*	0.60**	0.75**	0.81**	<b>0.84</b>
Mean	3.02	2.89	2.98	3.98	2.75	2.67	2.58	2.57
Standard deviation	0.88	0.94	0.94	0.74	0.96	1.10	1.10	1.06

Notes: Diagonal elements with the bold italic are square roots of average variance extracted. NS = Inner self; SS = Social self; NI = Normative influence; II = Information influence; BAT = Brand attachment; LK = Like; SH = Share; COM = Comment.

Table 5. Results of the structural model

Path	Stand. Coeff.	t-value	p-value	Hypotheses
NS→BAT	0.47	11.51	***	S
SS→BAT	0.42	10.31	***	S
NI→BAT	0.12	3.02	**	S
II→BAT	0.01	0.38	0.79	N
BAT→LK	0.59	14.29	***	S
BAT→SH	0.62	14.83	***	S
BAT→COM	0.62	12.87	***	S

Notes: Stand. coeff. = standardized coefficient; NS = Inner self; SS = Social self; NI = Normative influence; II = Information influence; BAT = Brand attachment; LK = Like; SH = Share; COM = Comment. \*\*\*significant at p < 0.001; \*\*significant at p < 0.01; S = support; N = nonsupport.

## DISCUSSION

The study explored the impacts of SEBs and SIPI on consumer SNS behaviors, considering brand attachment as mediators. The findings in this study indicated that social self and inner self were positively related to consumers' brand attachment, making the acceptance of H1 and H2. The results are in accordance with the viewpoints of Lee and Workman (2015). Further, the results in Table 5 show that the influence of inner self and social self is similar. These findings of the research illustrate that self-expressive brands carry emotional association, and consumers are more likely to have emotional attachment to brands that can enhance their inner or social self, which that can enhance customer engagement behavior in social network.

In order to explore whether the susceptibility to interpersonal influence will affect brand attachment, this paper takes normative influence and information influence as independent variables to analyze their influence on brand attachment. The results show that normative influence has positive impacts on brand attachment, supporting Hypothesis 3, but the correlation between information influence and brand attachment is not significant. The results are consistent with prior studies that identified normative influence as a core contributor to brand attitude (e.g., Zhan and He, 2012;

**Table 6. Mediating role of brand attachment**

	p value	Beta value	LLCI	ULCI	Result
Direct effect: NS→BAT→LK	0.001	0.180	0.078	0.282	Partial mediation
Indirect effect: NS→BAT→LK	0.000	0.203	0.143	0.267	
Direct effect: SS→BAT→LK	0.094	0.098	-0.018	0.212	Partial mediation
Indirect effect: SS→BAT→LK	0.000	0.183	0.117	0.258	
Direct effect: NI→BAT→LK	0.614	-0.025	-0.116	0.074	Full mediation
Indirect effect: NI→BAT→LK	0.004	-0.054	0.014	0.097	
Direct effect: NS→BAT→SH	0.035	0.103	0.009	0.202	Partial mediation
Indirect effect: NS→BAT→SH	0.000	0.242	0.175	0.313	
Direct effect: SS→BAT→SH	0.165	0.081	-0.034	0.191	Partial mediation
Indirect effect: SS→BAT→SH	0.000	0.218	0.147	0.294	
Direct effect: NI→BAT→SH	0.475	-0.036	-0.125	0.058	Full mediation
Indirect effect: NI→BAT→SH	0.004	0.065	0.017	0.115	
Direct effect: NS→BAT→COM	0.714	-0.024	-0.126	0.084	Full mediation
Indirect effect: NS→BAT→COM	0.000	0.258	0.187	0.333	
Direct effect: SS→BAT→COM	0.019	0.153	0.024	0.270	Partial mediation
Indirect effect: SS→BAT→COM	0.000	0.233	0.159	0.315	
Direct effect: NI→BAT→COM	0.382	-0.045	-0.135	0.053	Full mediation
Indirect effect: NI→BAT→COM	0.004	0.069	0.018	0.124	

*Note.* NS = Inner self; SS = Social self; NI = Normative influence; II = Information influence; BAT = Brand attachment; LK = Like; SH = Share; COM = Comment.

Kessous and Valette-Florence, 2019). A plausible explanation for the finding may be that consumers who are more willing to comply with others' expectations are likely to generate brand attachment. In contrast, individuals who are susceptible to information influence mostly aim to accept information from others, with no intention to make strong emotional connections with the brand.

Since brand attachment plays a mediating role between independent variables (SEBs and SIPI) and dependent variables (consumer engagement on SNS, namely like, share, and comment), making the acceptance of H5 and H6. The findings show that it is necessary to consider the positive roles of SEBs and SIPI, as these can stimulate consumer brand attachment and, in turn, also can enhance customer engagement behavior in social networks. The finding supports the argument of Rabbanee et al. (2020), verifying the importance of brand attachment cannot be underestimated in today's SNS-connected world.

### Theoretical Implications

First, the research considers both the self and influence of others and provides new insight into the study of consumer engagement on SNS. It is understood that this is the first time to explore consumer engagement on SNS by taking both categories into consideration, and examining SEBs and SIPI do influence consumer social networking engagement behavior. The findings are helpful in deeply understanding consumers' SNS behavior and figuring out effective means to drive consumers to engage on online social networks.

Second, considering that consumers may come into contact with brands that reflect their self-concept, our research takes the distinction between inner self and social self as a breakthrough, comprehensively analyzes the role of brand self-expression on SNS, which extends related literature by responding to the call of Algharabat et al. (2020) for a study of the impact of social self on consumer engagement to complement their findings. The results show that there are positive correlations between these two forms of brand self-expression and brand attachment. These provide strong theoretical support for Lee and Workman (2015) to study the components of brand attachment in the online social network context. Moreover, the conclusion of this research also enriches the existing self-expression brands theory to a certain extent. We show that social self and inner self directly or indirectly affect consumer engagement on SNS through brand attachment, which shows the significance of including SEBs in research on social network behavior and brand attachment.

Third, few scholars have studied if SIPI (normative influence and information influence) has an impact on brand attachment. The study reveals a new insight as we show that only the consumer who is influenced by norms will be attached to brands, and information influence will not. This finding can effectively demonstrate Orth and Kahle's (2008) viewpoints on normative influence, which also hold that consumers with sensitive to normative influence tend to establish a mutually beneficial relationship with the brand, so as to improve the image in the eyes of others and achieve the expectation of others.

In view of the fact that most research on brand attachment and customer engagement are conducted separately (Hinson et al., 2018), our research focuses on the relationships between brand attachment and consumers' tendency to like, share, and comment on SNSs and also clarifies the intermediary role of brand attachment. This research further reflects the psychological mechanism of consumer engagement on SNS, which few prior studies have done (Rabbanee et al., 2020). This paper also reveals that, in order to encourage individuals to engage, we should not only consider the self and influence of others but also establish a deeper relationship between the consumers and the brands, to enhance consumers' emotional attachment to the brands.

## Managerial Implications

In the process of research, this paper attempts to explore the factors that affect consumers' online social network engagement. The conclusion provides great help for brand managers to adopt the psychological motivation to inspire related SNS behaviors. The findings figure out the factors that affect consumers' emotional attachment, thus, it can also help marketers scientifically evaluate their marketing plans and strategies on social network platforms.

By exploring the factors that affect consumer engagement on SNSs, these findings are helpful for brand managers to recognize the importance of SEBs and SIPI. Marketing managers can achieve their marketing goals with the help of the role of groups and consumers' expectations of self-expression. Brand managers can motivate customers to express themselves more actively, through communication and interaction with brands and by sharing their stories. Furthermore, managers also can utilize social network platforms and interpersonal influence to attract individuals to establish contact with others in the form of brand consumption and sharing brand information.

Despite the significant contribution of normative influence, social self and inner self have greater effects on brand attachment. It means that enhancing the connections between consumers and brands requires us to attach great importance to self-expression in brand positioning. Marketers should focus on the information that can attract the inner self and social self to carry out management work. For instance, the company may arrange special staff to post on the brand's online social network to interact with the brand's existing and potential users online, so that they can improve the brand's credibility and popularity. Customers who *like* the brand on an SNS will see such comments in their tweets. If consumers can receive the updated information about the brand in time, their cognition of the brand will be more real, which will enhance the image of the brand in their hearts. Moreover, managers can also organize a competition to reward the customers that get the most likes. Generally speaking,

consumer desire for social popularity can be enhanced with the help of liking and sharing in social networks, so that they can engage in brand-related activities in social networks more actively.

This study can also help to figure out why many consumers following brands to express themselves are willing to share and like but not comment. It can be found that brand attachment plays a fully mediating role in the impacts of inner self on commenting on SNS, but others are not. Our findings suggest that following certain brands that could help to express one's own inner self is a long time thing, as fans become attached to the brands before they take the time to comment on certain brands on social networking sites. Marketers can provide fans with a brand community, which further facilitates their comments and strengthens the relationship between consumers and brands.

Thus, a challenge for the brand manager is to play a normative role. The results show that brand attachment plays a fully mediating role in normative influence and consumers' tendency to like, share, or comment. On the one hand, brand managers should improve their promotion programs and strengthen customers' emotional attachment to products and brands as much as possible. The core of management decision-making should focus on understanding customers, interacting with customers, and establishing lasting relationships with customers. On the other hand, brand strategists with social networks as promotion channels can take full advantage of the role of normative influence, and marketing activities could invite celebrity endorsers and opinion leaders to improve consumer tendency to like, share, or comment.

### **Limitations and Future Research**

Due to the limited time, there are some deficiencies in this study. Firstly, the paper mainly takes the Chinese who have visited Sina Weibo as the research object, with the respondents from only one country, resulting in localized applicability of this research. In future research, we will try to expand the survey to other countries and analyze the difference between different brand categories. Secondly, the analysis of this research is in light of social identity theory; other theoretical models can be used to analyze the major variables related to consumer engagement on online social networks. Thirdly, this research takes the brand's Weibo fans as the research object, but there are many social media platforms for the interaction between brands and consumers. Therefore, in future research, we can try to explore customer engagement on other platforms (such as brand communities). Finally, though this study brought in brand attachment and makes an effective response to Wang et al. (2016), to pay attention to the importance of brand attachment in social networks, further research can consider other factors (such as brand loyalty and brand love) to further deepen the understanding of consumer engagement on online social networks.

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## APPENDIX

### Appendix 1. Measures

Construct	No.	Items	Sources
Inner self (NS)	NS1	“This brand symbolizes the kind of person I really am inside.”	Carroll & Ahuvia (2006)
	NS2	“This brand reflects my personality.”	
	NS3	“This brand is an extension of my inner self.”	
	NS4	“This brand mirrors the real me.”	
Social self (SS)	SS1	“This brand contributes to my image.”	
	SS2	“This brand adds to a social “role” I play.”	
	SS3	“This brand has a positive impact on what others think of me.”	
	SS4	“This brand improves the way society views me.”	
Normative influence (NI)	NI1	“I rarely purchase the latest fashion styles until I am sure my friends approve of them.”	Bearden et al. (1989) as well as Ruane & Wallace (2015)
	NI2	“It is important that others like the products and brands I buy.”	
	NI3	“When buying products, I generally purchase those brands that I think others will approve of.”	
	NI4	“If other people can see me using a product, I often purchase the brand they expect me to buy.”	
Information influence (II)	II1	“If I have little experience with a product, I often ask my friends about the product.”	
	II2	“I often consult other people to help choose the best alternative available from a product class.”	
	II3	“I frequently gather information from friends or family about a product before I buy.”	
Brand attachment (BAT)	BAT1	“My feelings toward the brand can be characterized by affection.”	Malaer (2011)
	BAT2	“My feelings toward the brand can be characterized by love.”	
	BAT3	“My feelings toward the brand can be characterized by connection.”	
	BAT4	“My feelings toward the brand can be characterized by passion.”	
	BAT5	“My feelings toward the brand can be characterized by delight.”	
	BAT6	“My feelings toward the brand can be characterized by captivation.”	
Like (LK)	LK1	“I intend to press Like on the posts about the product descriptions from the brand.”	Rabbanee et al. (2020)
	LK 2	“I anticipate that I will press Like on the product description posts.”	
	LK 3	“I will click Like on the posts about the product description.”	
Share (SH)	SH1	“I intend to share the posts about the product descriptions from the brand.”	
	SH2	“I expect to share the posts about the product descriptions.”	
	SH3	“I will share the posts about the product descriptions.”	
Comment (COM)	COM1	“I intend to comment on the posts about the product descriptions from the brand.”	
	COM2	“I will write a comment on the posts about the product descriptions.”	
	COM3	“I expect to comment on the posts about the product descriptions.”	

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