Insta-Gratification: Examining the Influence of Social Media on Emotions and Consumption

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Research is increasingly revealing that despite the gratification that social media engagement provides in terms of information sharing and social networking, it can also present emotional and behavioral challenges for users. The current research examines the influence of social media on emotional well-being and consumption. It investigates the relationship between social media engagement and anxiety in young adults and explores the impact that social media engagement has on consumption—notably, behavior with the intent to mitigate anxiety. A model is tested with participants (n = 795) from the Gen Z and Millennial cohorts. The findings indicate that while having a sense of belonging is negatively related to anxiety, social media engagement and anxiety are positively associated. Further, both social media engagement and anxiety are positively related to consumption behaviors that are aimed at alleviating negative emotions and positively related to vice consumption. Implications from findings on how adverse outcomes from excessive social media use can be curtailed are discussed.

Keywords: social media engagement, anxiety, belongingness, emotion regulation consumption, vice consumption

S ocial networks allow individuals access to information, social support, and network members' skills and knowledge (Bekalu & Eggermont, 2019; Viswanath, 2008). In addition, face-to-face social connections provide opportunities for emotional engagement and help to foster well-being. However, there is concern about whether virtual interactions provide the same level of benefit (Hobson, 2017). Social media has facilitated the proliferation of virtual interactions and social networks, and for many, engaging through a social media platform is part of their daily routine. Roughly 75% of Facebook users and 60% of Instagram users visit these platforms at least once a day (Pew Research Center, 2021). The average social media user spends over two hours on social media each day (Tankovska, 2021).

Although social media can be a useful tool for disseminating information and providing users with an extensive social network, it can also present challenges, especially for young adults. For example, social media could be an unwelcome distractor, disrupt sleep, help spread inaccurate information and promote bullying behavior. Moreover, there is growing concern that high levels of social media use may lead to negative mental health outcomes—specifically rising levels of anxiety (Boers et al., 2019; Keles et al., 2019; Shakya & Christakis, 2017).

In the United States, young adults are increasingly suffering from mental health challenges, as they report higher rates of anxiety and depression than did previous generations (Blue Cross Blue Shield Association, 2019). Linked to problems with mental health, a noteworthy number of young adults are dying "deaths of despair," or deaths related to drugs, alcohol, and suicide (Ducharme et al., 2019; Hoffower & Akhtar, 2020; Trust for America's Health, 2019). "Deaths of despair" accounted for the deaths of approximately 36,000 young American adults in 2017 (Ducharme et al., 2020). Pertinently, social media can be a contributing risk factor as exposure to self-harm content via social media can put some vulnerable, young adults at risk. Specifically, such content has been associated with suicidal ideation, self-harm, and emotional disturbance (Arendt et al., 2019).

Furthermore, mental health challenges such as rising levels of anxiety can also result in adverse consumption behavior. The behavioral literatures have suggested that individuals may engage in consumption, particularly of a hedonic nature, to mitigate negative emotions (Kemp & Kopp, 2011; Tice et al., 2001). Relevantly, research has indicated that consumers use social media to guide their purchase and consumption decisions (Shepherd, 2021). It is undeniable that social media is replete with content regarding imagery depicting products (e.g., food, alcohol, tobacco, electronic cigarettes, cannabis) that can trigger behavioral and physiological responses that invite unfavorable consumption (Costello & Ramo, 2017). Considering the combination of high social media engagement among young adults and escalating degrees of anxiety within this group, it is rational to explore possible connections among these factors with reference to consumption behavior.

The purpose of the current research is to examine the influence that social media has on emotional well-being and consumption. Specifically, it investigates the relationship between social media engagement and anxiety in young adults. It further explores the impact social media engagement has on consumption—notably, behavior with the intent of mitigating anxiety—and how such consumption behavior may have adverse effects on health and well-being.

In the research that follows, a model is developed which addresses the role that social media plays in regard to well-being and consumption. First, a discussion of the influence that social media has on psychological well-being, especially its impact on rising anxiety levels in young adults, is presented. Next, consumption behaviors linked to social media engagement are discussed. Propositions put forth are then tested in a model. Finally, implications from findings are discussed with respect to how adverse outcomes from excessive social media use can be curtailed.

CONCEPTUAL BACKGROUND

Social Media and Anxiety

The link between social media use and health has become a growing concern. A burgeoning body of literature suggests that high social media engagement, or the repeated use and integration of social media into the behaviors, routines, and emotional life of an individual (Jenkins-Guarnieri et al., 2012), is negatively associated with subjective well-being. For example, studies have found associations between social media use and indicators of mental health among adolescents and young adults (Barry et al., 2017; Kross et al., 2013). While Shakya and Christakis (2017) found that high Facebook usage is negatively associated with well-being, Dunn and Langlais (2020) found that intense use of Snapchat is detrimental to the mental health and romantic relationships of young adults. Similarly, Primack et al. (2017) found a linkage between increased levels of depression, anxiety, and social isolation among young adults with high social media usage.

Research suggests that when individuals use social media, they experience several stressors which fuel anxiety (Bonnette et al., 2019; Reed, 2020). This may be partly driven by acts of social comparison. While the effects of social comparisons vary depending on direction (i.e., parallel, upward, and downward) (Festinger, 1957), upward comparisons

have been shown to lead to mental health issues and negative emotions (Niu et al., 2016). The likelihood of such comparisons is increased during social media use (Wang et al., 2020). When others share peak experiences, flattering images, personal achievements, etc. via social media, individuals may experience increased anxiety.

While occasional feelings of anxiety are a normal part of life, people with anxiety disorders frequently suffer intense, excessive, and persistent worry and fear concerning everyday situations. Anxiety is characterized by anticipation of danger or misfortune, which is accompanied by muscle tension and avoidance behavior (American Psychiatric Association, 2019a). It is an unresolved fear or a state of undirected arousal. Anxiety has both psychological and physical features. Feelings of anxiety arise in the amygdala. As neurotransmitters carry the impulse to the sympathetic nervous system, heart and breathing rates increase, muscles tense, and blood flow is diverted from the abdomen to the brain. In the short term, anxiety readies individuals to deal with crises; however, its physical effects can be counterproductive, causing light-headedness, nausea, diarrhea, and frequent urination. Because anxiety involves excessive worry, hyperarousal, and fear, it is often counterproductive and debilitating (Simpson et al., 2010). As a result, anxiety can cause significant problems in relationships, education, and employment (National Institute of Mental Health, 2019; American Psychiatric Association, 2019b).

Furthermore, anxiety is often associated with a lack of sense of belonging (Meuret et al., 2016). As a biological imperative, individuals feel a need to belong. Thus, believing that one is an outsider, or at risk of becoming one, is likely to engender anxiety (Schmidt, 2019). While managing social networks can be adaptive, excessive concern about social safety can be problematic and lead to anxiety (Schmidt, 2019). Conversely, those who feel more secure and enjoy close relationships within their social groups may experience less anxiety. In addition, research has linked frequent social media use to social isolation (Primack et al., 2017). Often social media usage promotes the creation of superficial social ties that may be void of genuine, human connection. However, individuals who have strong social capital, which includes the tangible and intangible benefits derived from friendships, family, and co-workers (Belliveau et al., 1996), may be less prone to use social media excessively and less likely to pursue it as a way to form relationships.

Taken as a whole, although having social connectedness is essential in promoting emotional and psychological well-being, high levels of social media engagement can contribute to increased anxiety. Yet, possessing a sense of belonging might help individuals to mitigate anxiety and those who possess a strong sense of belonging may be less likely to use social media excessively. Accordingly, the following hypotheses are proposed (see Figure 1):

H1a: Social media engagement is positively related to anxiety.

H1b: Belongingness is negatively related to anxiety.

H1c: Belongingness is negatively related to social media engagement.
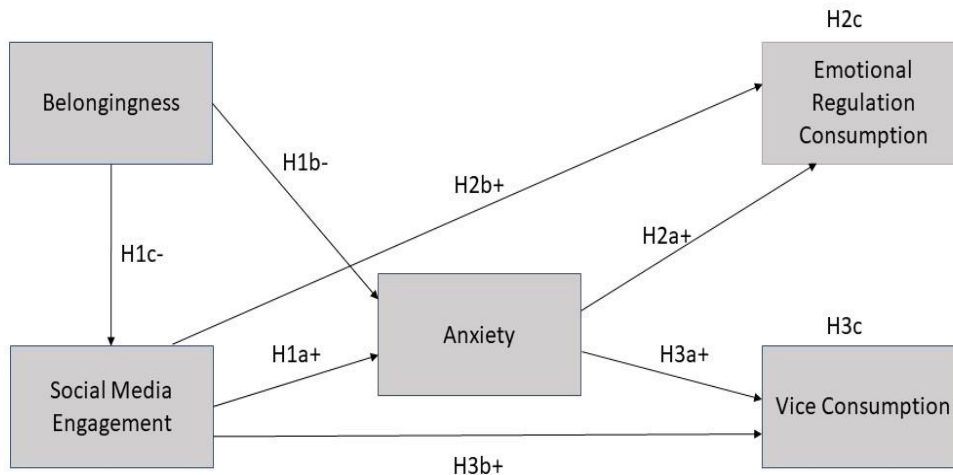
Figure 1. Social Media, Anxiety and Consumption Model. Summarizes the hypotheses.

Emotion Regulation and Consumption

Because sustained anxiety can be counterproductive, individuals may make attempts to manage or regulate emotions. Emotion regulation refers to the processes by which individuals influence which emotions they have, when they have them, how they experience them, and how they express them (Gross, 1998). Conventional wisdom suggests that people would rather feel good than bad (Clark & Isen, 1982). Such hedonic tendencies

have also been implied in the behavioral literatures, proposing that people experiencing negative emotions may make conscious efforts to "down-regulate" negative emotional states (Fredrickson et al., 2000). Consumption is one strategy used by people experiencing negative emotions to attain positive reinforcement (Kemp et al., 2013; Tice et al., 2001). Specifically, individuals experiencing negative emotions may consume products with some hedonic benefit in an effort to mitigate or "undo" negative emotions. Kemp and Kopp (2011) identified this phenomenon as emotion regulation consumption (ERC), which refers to the consumption of a good or service for the purposes of alleviating, repairing, or managing an emotion.

As aforementioned, individuals who have high social media usage may experience high levels of anxiety (Reed, 2020). To mitigate such negative emotional experiences, individuals may engage in consumption behavior of a hedonic nature. In addition, social media has been deemed a valuable tool for engaging consumers. Industry research indicates that over 70% of consumers use social media to guide their purchase and consumption decisions (Shepherd, 2021). Given the alluring marketing campaigns on social media designed to target the senses (Majids et al., 2015), individuals who use social media frequently may be more likely to engage in consumption behavior that appeals to their affective sensibilities and subsequently use consumption to regulate emotions. As a result, the following is proposed with respect to the relationship between anxiety, social media engagement and emotion regulation consumption (see Figure 1)

H2a: Anxiety is positively related to emotion regulation consumption.
H2b: Social media engagement is positively related to emotion regulation consumption.
H2c: Anxiety mediates the relationship between social media engagement and emotion regulation consumption.

Studies suggest that highly anxious individuals on social media may show an increased tendency to engage in alcohol consumption (Bonnette et al., 2019; Reed, 2020). In a recent experiment, Johnson et al. (2020) found that parasocial behavior (i.e., relationships between media users and media figures) toward a popular YouTube blogger

influenced individuals' alcohol purchasing intentions. The impact of this type of engagement is coupled with the fact that individuals who spend a lot of time on social media may also receive a great deal of exposure to hedonic and "vice" products such alcohol, decadent food, cigarettes, and drugs (Nova Recovery Center, 2020). The tobacco, electronic cigarette, and alcohol industries have widely integrated social media platforms into their marketing strategies. In addition, the cannabis industry has been presented with more opportunities for advertising through social media (Costello & Ramo, 2017). Substance use is often glorified by celebrities and others on social media. Research has found that exposure to substance use imagery is associated with subsequent onset in use (Bonnette et al., 2019; Costello & Ramo, 2017). Similarly, imagery and videos of food are also pervasive throughout social media and can trigger behavioral and physiological responses that can lead to unhealthy eating habits and weight gain (Arnold, 2019). In their study, Reagan et al. (2020) found that the majority of food and beverage products promoted on Instagram were considered unhealthy in nature. Therefore, given the prevalence of multiple vice products on social media platforms, individuals may be more inclined to consume such products as well as use them as a mechanism for down-regulating anxiety. The following hypotheses are put forth (see Figure 1):

H3a: Anxiety is positively related to vice consumption.

H3b: Social media engagement is positively related to vice consumption.

H3c: Anxiety mediates the relationship between social media engagement and vice consumption.

METHODOLOGY

Sample

With advanced protocol approval from the IRB, participants (n = 795) were recruited using Qualtrics panel services. Fifty-nine percent of the participants were female. Participants were from the United States and belonged to either the Gen Z or the Millennial generational cohort. A total of 63.9% of participants were Caucasian, 15.6% were African American, 10.6% were Latinx/Hispanic, 7.7% were Asian American, 1.4%

were Native American/Indigenous, and .9% were other ethnicities. Fifty-three percent of the participants were married and 70% had at least some college education.

Measures

The survey items were adapted from established scales. Social media engagement was measured using the social integration and emotional connection subscale of the social media use integration scale (Jenkins-Guarnieri et al., 2012). The subscale includes six items (Cronbach's Alpha = .906, e.g., "I would like it if everyone used social media to communicate") and was measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). Belongingness was measured using the belongingness scale (Malone et al., 2012). The scale is composed of six items (Cronbach's Alpha = .922, e.g., "When I am with other people, I feel included.") and was measured using a 7-point Likert scale. Anxiety was assessed using the generalized anxiety scale (Spitzer et al., 2006) which is composed of seven items (Cronbach's Alpha = .949, e.g., "In general, how often have you been bothered by the following? Feeling nervous, anxious, or on edge"). Items were anchored by "not at all" and "nearly every day" and were measured using a 7-point scale. To determine whether individuals use consumption as a mechanism for managing emotions, a portion of the emotion regulation consumption scale (Kemp et al., 2014) was used. The original subscale consists of six items. However, two items caused cross-loading issues and were rationally eliminated (e.g., "I drink things that make me feel better about the situation" caused cross-loading issues with "alcohol" in the vice consumption measure). The remaining emotion regulation consumption scale consisted of four items (Cronbach's Alpha = .876, e.g. "I consume products of an indulgent nature more than usual to make myself feel better."). Finally, vice consumption was measured by asking participants "to what extent they consume any of the following: alcohol, cigarettes, marijuana, use vape, pain killers, and recreational drugs." Items were anchored by "never" and "always" and were measured using a 7-point scale (Cronbach's Alpha = .883).

RESULTS

To verify the model, an analysis was performed using AMOS 26. The techniques employed included exploratory factor analysis, confirmatory factor analysis, regression,

and a multi-step approach to structural equation modeling (SEM) using the maximum likelihood estimation method.

Measurement Model

A confirmatory factor analysis was conducted to confirm the measurement properties of the constructs. The results of the confirmatory factor analysis (see Table 1) revealed both convergent and discriminant validity. Validating convergence, all factor loadings were between .603 and .953 except for "alcohol", which had a slightly lower value than the threshold value of .50 (Gaskin, 2021). Yet, the significance of loadings is dependent on sample size (Gaskin, 2021) and with a large sample size of 795, the loadings for the current data are sufficient.

Table 1 *Confirmatory Factor Analysis*

	Factor Loadings			
Anxiety				
a1	0.888			
a2	0.922			
a3	0.953			
a4	0.869			
a5	0.727			
a6	0.800			
a7	0.758			
Belongingness				
belon1		0.692		
belon2		0.753		
belon3		0.833		
belon4		0.853		
belon5		0.902		
belon6		0.852		
Social Media Integration and Emotional Connection				
smiec1			0.688	
smiec2			0.841	
smiec3			0.769	
smiec4			0.889	
smiec5			0.814	
smiec6			0.689	
Vice Consumption				
alcohol				0.479
cigarettes				0.603
drugs				0.920
marijuana				0.654
pain				0.842
vape				0.834
Emotional Regulation Consumption				
erc1				0.625
erc4				0.771
erc5				0.818
erc6				0.921

Discriminant validity was confirmed as indicated by the square roots of all average variance extracted scores being greater than each of the inter-factor correlations. Furthermore, all composite reliabilities were between .88 and .95 and greater than the .60 threshold indicating reliability (Nunnally & Bernstein, 1994), and all average variance extracted scores were between .56 and .71 exceeding the .50 threshold indicating convergent validity (Fornell & Larcker, 1981) (see Table 2). To test for bias, we compared the initial, unconstrained common method factor model to a fully constrained factor model. The resulting χ^2 indicated the presence of significant shared variance. It was therefore necessary to utilize a common latent factor (CLF) and impute factors scores to capture the common variance among the observed variables. Upon retaining the CLF, overall model fit was evaluated using a series of fit indices (Hu & Bentler, 1999; Hair et al., 2010) which showed evidence that the model offered good fit to the data and constructs ($\chi^2 = 737.3$, df = 331, p = 0.000; CFI = .976, IFI = .976, TLI = .971; RMSEA = 0.39; SRMR = 0.0342).

Table 2
Means, Standard Deviations, Reliabilities, Average Variance Extracted and Pearson Correlations

Construct	Mean	SD	Composite Reliability	Cronbach's Alpha	AVE	ANX	BELONG	SMIEC	VICE	ERC
ANX	4.13	1.62	0.95	0.949	0.71	1				
BELONG	4.86	1.23	0.92	0.922	0.62	-.102*	1			
SMIEC	4.34	1.44	0.90	0.906	0.61	.321**	0.303**	1		
VICE	2.72	1.62	0.88	0.876	0.56	.498**	0.260**	0.493**	1	
ERC	4.14	1.49	0.88	0.883	0.64	.499**	0.199**	0.520**	0.600**	1

Notes: *Significant at < the 0.01 level; **Significant at < the 0.05 level
ANX = Anxiety, BELONG = Belongingness, SMIEC = Social Media Integration and Emotional Connection, VICE = Vice Consumption, ERC = Emotional Regulation Consumption

Structural Model

Upon confirming the characteristics of the scales, the hypotheses were tested using structural equation modeling. The results suggested that the research model provided good fit (Hu & Bentler, 1999; Hair et al., 2010) to the data ($\chi^2 = 7$, df = 2, p < .05; CFI = .991, IFI = .992, TLI = .957; RMSEA = .056; SRMR = .0234). Moreover, all except one of the hypothesized relationships were supported (See Table 3). Specifically, while social media engagement was positively related to anxiety, belongingness was negatively related to both anxiety and social media engagement. Thus, both H1a and H1b were supported.

However, although a negative association between belongingness and social media engagement was hypothesized, the analysis revealed a positive relationship. Therefore, H1c was not supported. Concerning emotion regulation consumption, both anxiety and social media engagement exhibited positive relationships, supporting H2a and H2b. Additionally, both anxiety and social media engagement were positively related to vice consumption, providing support for H3a and H3b.

Hypotheses 2c and 3c predicted anxiety as a mediator between social media engagement and emotion regulation consumption and social media engagement and vice consumption, respectively. The analysis revealed that these indirect effects were significant. More specifically, the results of the mediation analysis indicated that individuals who are highly engaged in social media are likely to participate in more emotion regulation consumption due to feelings of anxiety (indirect effect estimate = 0.055, S.E. = 0.013, 95% CI [0.035 to 0.078], p = .001), supporting H2c. Additionally, the analysis suggested that individuals who are highly engaged in social media are more likely to partake in vice consumption due to feelings of anxiety (indirect effect estimate = 0.03, S.E. = 0.008, 95% CI [0.019 to 0.043], p = .001), supporting H3c.

Table 3
Structural Equation Modeling Results

Hypothesis	Standard Coefficient	Standard Error	Critical Ratio	Test Result
H1a: SMIEC → ANX	0.187	0.04	5.5	Supported
H1b: BELONG → ANX	-0.343	0.037	-10.091	Supported
H1c: BELONG → SMIEC	0.22	0.033	6.359	Not Supported
H2a: ANX → ERC	0.291	0.027	9.203	Supported
H2b: SMIEC → ERC	0.335	0.032	10.597	Supported
H2c: SMIEC → ANX → ERC	0.055	0.013		Supported
H3a: ANX → VICE	0.236	0.02	6.902	Supported
H3b: SMIEC → VICE	0.013	0.023	3.795	Supported
H3c: SMIEC → ANX → VICE	0.03	0.008		Supported

Post-Hoc Analysis

Although not the primary objective of the current study, multigroup analyses were conducted using chi-square difference tests to check the model for possible demographic-based disparities. While the results did not indicate any significant differences in terms of

age or ethnicity, a slightly significant difference was revealed regarding gender (CMIN = 2.906(1), p = .088). However, upon further investigation, it was discovered that only the path from belongingness to social media engagement indicated a slightly stronger association for males than for females (Males β =.24, Females β = .23). These distinctions may be attributable to overall gender-based differences in social media use. In general, more females than males use social media networks; however, gender-based usage varies across social media platforms (Statista Research Department, 2021). For instance, more males than females use Facebook, LinkedIn, and Twitter (Statista Research Department, 2021). Thus, males certainly have the potential to have high levels of social media engagement. Furthermore, David-Barrett et al. 2015 found that while female Facebook users prefer dyadic relationships for social networking, male users prefer to belong to larger groups. Perhaps social media's ability to afford considerable access to larger groups and, in turn, more potential for belongingness, leads males to engage more highly in social media.

DISCUSSION

This research examined the impact that social media has on emotional well-being and consumption. The findings indicate that while social media engagement is positively related to anxiety, belongingness is negatively related to anxiety. Consequently, high levels of social media use may fuel anxiety. It is possible that anxiety might be induced during social media engagement due to individuals' acts of social comparisons as others share positive experiences and favorable personal information. Additionally, while feeling that one is an outsider is likely to incite anxiety, feeling that one is connected to others mitigates feelings of anxiety. Interestingly, the results also revealed that the relationship between sense of belonging and social media engagement was positive instead of negative. A reason for this outcome may be attributable to the fact that many individuals seek social media engagement because it enables them to network with those with whom they feel they belong. In other words, individuals who already have a strong sense of belonging may engage in more social media use because it facilitates their desired interactions and further strengthens their connections.

The findings also demonstrated that social media engagement as well as anxiety are positively related to unfavorable consumption behavior which is fostered by the intent to alleviate negative emotions. Content regarding and images of indulgent foods, tobacco, alcohol, and cannabis are all prevalent throughout social media and can trigger behavioral and physiological responses that lead to consuming products to down-regulate anxiety.

RESEARCH IMPLICATIONS

Because high social media use may be responsible for having a negative impact on well-being by inducing negative emotions, individuals might benefit from identifying specific, effective emotion regulation strategies to help improve subjective well-being (Troy et al., 2018). Emotion regulation strategies are cognitive processes used for dampening, intensifying, or simply maintaining an existing emotion (Gross, 1998; Gross & John, 2015). Cognitive reappraisal is one of the most common emotion regulation strategies. In the process model of emotion regulation, it entails cognitive change where a potentially emotion-eliciting situation is construed in such a way that changes its emotional impact (John & Gross, 2004; Kemp et al., 2020). Thus, avid social media users might benefit from enlisting an emotion regulation strategy like cognitive reappraisal to mitigate the experience of negative emotions and possibly the adverse consumption behavior that might ensue.

Social media often presents a one-sided view of consumption. Drug and alcohol use may be glamorized and normalized without vital warning regarding the deleterious effects of such behavior (Nova Recovery Center, 2020). In addition, social media is often difficult to regulate, which opens the door to inappropriate target marketing, vulnerable audiences being exposed to unsuitable content, and the creation of false perceptions regarding harmful products. However, social marketing might be enlisted to provide more counter marketing efforts to combat what is currently not being controlled. This would particularly be beneficial regarding the consumption of vice products like vaping, cigarettes, and alcohol. Relatedly, research has shown that the negative effects of the social media exposure experienced by millennials may be countered with inspirational content (Janicke-Bowles et al., 2018). Thus, marketers could curtail anxiety and its associated

consumption-related consequences via an increase in the quantity of positive social media content.

Additionally, people may be more likely to discuss the use of vice products on social media as opposed to in-person. Social media offers a layer of separation that can encourage discussions about adverse consumption. Creating relevant interest-based groups and forums where individuals can interact might provide a better avenue for managing negative emotions that lead to such consumption.

Finally, because individuals may struggle with regulating their emotions, they might be aided in their regulatory processes by not only adopting restriction goals (e.g., avoiding alcohol or indulgent foods) but also re-categorizing alternatives (Poynor & Haws, 2009). Instead of consuming vice products for managing emotions, individuals might re-categorize alternatives by being encouraged to engage in activities such as meditation, yoga, and distraction to reduce emotional duress.

LIMITATIONS AND FUTURE RESEARCH

This research provides additional understanding regarding the influence of social media engagement on anxiety and consumption. However, opportunities for future exploration of these relationships exist. The current research used cross-sectional data from the Gen Z and Millennial cohorts. Future research might examine additional age groups as well as other demographic characteristics in relation to these factors. Additional research might also enlist experimental methodology to establish causal relationships between social media use, anxiety, and consumption behavior. In doing this, the type of communication which takes place on social media can be varied and tested to ascertain whether the form of interaction between users on social media contributes to certain feelings and behaviors. In addition, research could address the role that social media consumption has on self-concept, the propensity to engage in social comparisons and the effect that such tendencies have on consumption behavior. Finally, the current research only examined the relationship of anxiety to consumption. Future research might investigate relationships between social media engagement and other negative emotions such as sadness, anger, and frustration. It is probable that these emotions influence consumption behavior to varying degrees with respect to social media engagement.

Social media enables individuals considerable access and connectivity. However, excessive usage can bear unintended consequences. Research that explores the role that social media has on emotional well-being and consumption offers valuable understanding regarding how to balance and manage the use of a communication tool which has changed and shaped the way that society communicates, shares knowledge, and sustains relationships.

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Funding and Acknowledgements

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