

We are cyborgs: The role of narcissism and self-esteem to become social media and tourism addicts**Usep Suhud^a, Mamoon Allan^{b*}, Dorojatun Prihandono^c and Terrylina Arvinta Monoarfa^d**^a*Faculty of Economics, Universitas Negeri Jakarta, Indonesia*^b*Faculty of Archaeological and Tourism, the University of Jordan, Jordan*^c*Faculty of Economics, Universitas Negeri Semarang, Indonesia*^d*Faculty of Economics, Universitas Negeri Jakarta, Indonesia***CHRONICLE****ABSTRACT***Article history:*

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It is argued that excessive social media use can lead to an addiction. This study compares two proposed research models. The first model examines how social media addiction, narcissism, and self-esteem affect tourism addiction. Whilst the second model studies the impact of narcissism and self-esteem on social media and tourist addiction. There were also two research models proposed here. Data collection was obtained in Jakarta, with 214 participants chosen by using the convenient sampling method. Exploratory factor analysis and structural equation models were used to process the data. Social media addiction and narcissism affect self-esteem, while social media addiction and tourist addiction affect self-esteem. This research combines the study of addiction, modern media, and cyber marketing.

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1. Introduction

James Cameron's futuristic science fiction film *The Terminator* was released in 1984 and Arnold Schwarzenegger, the film's main character, is portrayed as a hybrid of a human and a robot. A 'cyborg' is a metaphor in marketing studies to describe consumers who are overly obsessed with gadgets and the internet (Suhud & Allan, 2020; Wiyanto et al., 2011). Neither the time nor the place, they use the internet and technology to perform various daily tasks. It is stated that a cyber marketing strategy must be used to market to cyborg consumers. To deal with these target markets, companies have modified their product marketing and sales strategies. Cybermarketing, often known as internet marketing, is the optimization of internet-based marketing and sales activities to target internet users. Nowadays, most consumers own smartphones, and each smartphone has an internet connection. Search Engine Optimisation (SEO), Search Engine Marketing (SEM), Pay Per Click or Pay Per Call (PPC), content marketing, social media marketing, email marketing, influencer marketing, affiliate marketing, drop selling, e-commerce, online shops, and social commerce are all part of this optimization (Huang & Benyoucef, 2013; Järvinen et al., 2012; Kritzing & Weideman, 2013; Yodi et al., 2020). In other words, cyber marketing is known as internet marketing, digital marketing or online marketing. Because of cyborg consumers, the company's primary target market, socializing on social media platforms, the use of social media in cyber marketing is unavoidable. They frequently use social media and some people, according to experts, are affected by social media addiction (Demircioğlu & Göncü Köse, 2021). Decidedly, several factors contribute to social media addiction, including low self-esteem and narcissism (Brailovskaia et al., 2020; Koçak et al., 2021). In this current study, social media is used as both a predictor and a predicted factor in two different research

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models. The current study also chose tourism addiction as one of the predicted factors of the study. Collectively, several studies have examined tourism addiction from diverse perspectives. More specifically, Bender and Furman (2004) investigate the psychological and social well-being of male sex tourists. According to these researchers, tourists who are sexually addicted enjoy sex activities more with fellow tourists they meet in tourist destinations and with sex workers. The incorrect assumption is that they engage in sexual activity without strict safeguards, putting themselves at risk of sexually transmitted diseases or even contributing to the spread of these infectious diseases. Another issue concerning tourism addiction is the usage of Virtual Reality (VR) technology. Some of the consequences of excessive VR use include the emergence of addiction among these virtual tourists (Kamal & Rethesh, 2023; Saneinia et al., 2022). Those addicted to VR have a high risk of becoming socially isolated because they appear to have their world without interacting with humans.

Furthermore, Bashagi and Muchapondwa (2009) found that tourists who previously visited the country for vacation and then returned to the country for the same purpose may be considered tourism addicts. In this regard, Lee et al. (2016) suggested that tourism addiction may or may not occur, depending on tourism character, tourism motivations, and tourism constraints. Tourism addiction also refers to tourists who fly from one city to another country and from one city to another, often for business reasons. Because of this habit, they tend to be addicted to flying (Griffiths, 2017; Young et al., 2014). Frequent flyers are also created by companies that offer various promotions to keep their customers using their services as often as possible. Cohen et al. (2011) argue that corporate stimuli can cause flight addiction and influence climate change.

Quantitative studies have examined individual behaviour related to addiction and repeat several variables, including narcissism and self-esteem. The studies mentioned are found primarily in psychology and social media, while the fields of marketing and tourism are still minimal. This research examines two research models: The first model examines the effects of social media addiction, narcissism, and self-esteem on tourism addiction, whilst the second model examines the effects of narcissism and self-esteem on tourism addiction and social media addiction. The lack of literature in this area makes this study highly relevant and urgent.

2. Literature review

2.1 Social Media Addiction

Addiction is a psychological problem faced by individuals regarding the intensity of the individual's relationship with an object or activity considered to be above a standard threshold (LaRose et al., 2003). For example, we consider that people who smoke excessively are addicted to cigarettes, and people who drink too much alcohol are alcoholics. The Internet has become a part of everyday life, for those who use it excessively, which is why we call it an Internet addiction. From internet addiction, the next development is an addiction to social media.

It is the point where social media usage becomes addictive (Brown, 1993; D'Arienzo et al., 2019; Griffiths, 2005). The first stage for such behaviour is the salience period, during which consumers believe that using social media is extremely significant and supersedes all other activities. The second stage is the mood modification period, during which consumers use social media to alter their moods. The third stage is the tolerance period, which increases from one time to the next to create a specific mood. The fourth stage is the period of withdrawal symptoms, during which consumers experience specific physiological and psychological effects when they reduce or discontinue their use of social media. The fifth stage is the conflict period, which occurs when consumers lose control of their social media use, causing social conflict and disrupting daily obligations. The sixth stage is the relapse period, during which consumers who had previously gained control over their social media use reverted to their old habits.

Previous research has shown that social media addiction has a negative impact on self-esteem (Acar et al., 2020; Hawi & Samaha, 2017; Kavaklı & Ünal, 2021; Khan et al., 2021). Acar et al. (2020) involve high school students to assess the impact of emotional problems and social media addiction on self-esteem. One of their findings indicates that social media addiction has a negative impact on self-esteem. Elsewhere, Dutot (2020) observes a different outcome by examining the impact of addiction, FoMo, narcissism, and self-esteem on life satisfaction. He divides self-esteem in the study into two categories, namely collective self-esteem, and individual self-esteem. He discovered that addiction has a significant positive effect on collective self-esteem.

Toward that end, this hypothesis has been formulated as follows:

H₁: *Social media addiction will have a positive impact on self-esteem.*

2.2 Narcissism

Overall, narcissism refers to exaggerated claims about a person's contribution to a group, organization, and society to society or groups. Narcissism is also associated with excessive self-esteem and pride. A narcissist is typically self-centred and lacks empathy for the suffering of others (Burgmer et al., 2021; Kesenheimer & Greitemeyer, 2021). According to several studies, narcissism is a mental disorder. Accordingly, Fox et al. (2018) postulate that those with narcissistic personalities enjoy appearing on social media by posting stories, photos, and videos about themselves and their strengths.

Even though narcissism is considered a kind of mental disorder, many people believe it has a positive side. According to Lin et al. (2021) a narcissistic CEO can support the implementation of sustainable green marketing in the company. According to Nevicka et al. (2016), narcissism can shape a person's positive self-image. Likewise, Mao et al. (2020) believe that employee narcissism can encourage employees to take more initiative at work. In some cases, narcissism can lead to the development of self-esteem (Barnett & Powell, 2016).

Narcissism and Self-Esteem

Researchers have paid little attention to the impact of narcissism on self-esteem. When testing the physical aggression factor, Barnett and Powell (2016) use narcissism and self-esteem. They include students from a university in the United States and they claim that a high level of narcissism is a sign of low self-esteem.

Guided by the previous studies, another hypothesis has been proposed in this study as follows.

H₂: *Narcissism will have a significant impact on self-esteem.*

2.3 Self-Esteem

Self-esteem is a person's subjective assessment of how well or poorly they feel about themselves. Individuals who have a positive self-image will consider themselves worthy, whilst individuals who perceive themselves negatively, on the other hand, will judge themselves as less valuable. As a result, people with high self-esteem usually behave appropriately.

Arguably, marketing researchers use self-esteem as a predictor of consumer behaviour. Self-esteem is essential for building purchase intention, brand image, self-improvement, impulse buying, and brand loyalty (Cai et al., 2021; Le, 2021; Narang, 2016; Yoon et al., 2020). Several studies have documented findings on the relationship between self-esteem and addiction. Consumers use social media because of their high self-esteem (Ghatak & Singh, 2019). However, too much self-esteem is also not good because it can lead to addiction to the internet and social media (Busalim et al., 2019; Utuk, 2021; Yousaf et al., 2015). Another opinion was conveyed by Yao et al. (2014) that only consumers with low self-esteem can be affected by Internet addiction.

Self-Esteem and Addiction

An individual's self-esteem can have a positive or negative impact. Self-esteem positively influences daily internet use, academic performance, task performance, self-efficacy, life satisfaction, life purpose, and brand loyalty (Busalim et al., 2019; Khan et al., 2021; Koçak et al., 2021; Le, 2021; S. Lee, 2020; Yang et al., 2019). Conversely, self-esteem can have negative effects on others, including depression, loneliness, and addiction (Iranmanesh et al., 2021; Kircaburun, 2016). Various addiction studies have shown that self-esteem contributes to addiction to the internet, social media, and gadgets (Błachnio et al., 2019; Busalim et al., 2019; Çutuk, 2021; Koçak et al., 2021; Yousaf et al., 2015; Zhang et al., 2015). Koçak et al. (2021) examined the effects of self-esteem, educational level, and life satisfaction by including high school students using social media in Turkey. They reported that self-esteem had a negative impact on social media addiction. However, another study showed different results which was conducted by Busalim et al. (2019) who tested the effects of self-esteem, frequency of use, and Facebook addiction on academic performance. One of their findings shows that self-esteem positively affects his Facebook addiction.

Thus, these two hypotheses should be tested to prove that self-esteem positively influences social media and tourism addiction.

H₃: *Self-esteem will have a significant impact on tourism addiction.*

H₄: *Self-esteem will have a significant impact on social media addiction.*

Fig. 1 shows the first and second proposed models. In the first model, social media addiction and narcissism were associated with self-esteem, and self-esteem was associated with tourism addiction. In the second proposed model, we modified social media addiction from an independent variable to a subordinate variable. Narcissism was related to self-esteem, and self-esteem was related to social media addiction and tourism addiction.

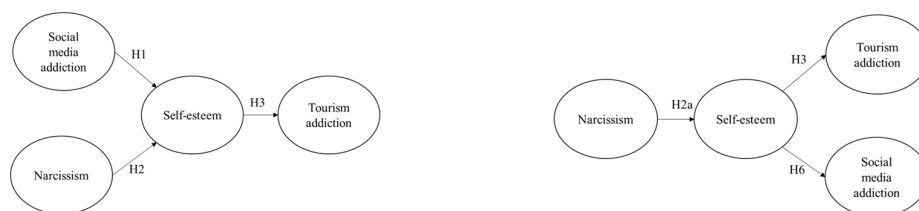


Fig. 1. The Proposed Research Models

3. Research methods

3.1 Measures

The four variables included in this current study were assessed using indicators from existing studies. Therefore, indicators from Lee et al. (2016) were adapted to measure tourists' measured tourism tourists' addiction. whereas indicators from Emmons (1984) were used to measure narcissism, and the Dobson et al. (1979) measured self-esteem. Finally, indicators from Tutgun-Ünal and Deniz (2015) were applied to measure social media addiction.

3.2 Data Analysis Methods

Data analysis was performed in three phases. The first phase of data processing is to check the validity of the data. The test was performed using an Exploratory Factor Analysis (EFA) method using SPSS version 27 software. When the number of participants was more than 200, the researchers set the minimum score for indicator effectiveness at 0.4, as suggested by Hair (2016). In the second phase, the Cronbach alpha score is used to test the reliability of the data. A construct (dimensions and variables) is reliable if they have an alpha score of 0.7 or higher (Hair et al., 2016). In the third phase, confirmatory factor analysis (CFA) is performed using AMOS 28 software. This article does not show CFA results because this phase is not mandatory. We do this to limit the indicators for which hypothesis testing may be less effective. In the fourth step, the hypothesis is tested using Structural Equation Models (SEM) with AMOS version 28 software. Several model fit criteria were selected for the calculation of CFA and SEM, as shown in Table 1. A hypothesis is considered accepted if it has a critical score ratio (CR) of 1.98 or higher (Hair et al., 2016).

Table 1
Criteria of a Fitted Model

Criteria	Rule of thumb	Resources
Probability	$0.05 < p < 1.00$	Schermelleh-Engel et al. (2003)
CMIN/DF	$0 \leq \text{CMIN/DF} \leq 2$	Tabachnick et al. (2007)
CFI	$0.95 \leq \text{CFI} \leq 1.00$	Hu and Bentler (1995)
RMSEA	$0 \leq \text{RMSEA} \leq 0.06$	Hu and Bentler (1999)

4. Research results

4.1 Participants

Table 2 shows the profiles of the study cohort. There were 214 participants, with 138 females (64.5%) and 76 males (35.5%). In terms of age, 144 participants were aged between 20 and 24 years old, while 38 (17.8%) were aged between 25 and 29 years old. The remainder is over the age of 29 years old. Furthermore, 107 participants (50%) were unemployed, while 88 (41.1%) were employed. The remaining 17 participants (7.9%) were self-employed, and two (0.9%) were retired. In addition, 164 (76.6%) of the participants were unmarried, while 45 (21.0%) were married. The remaining three participants (1.4%) were separated/divorced, and two (0.9%) were widowed.

Table 2
Profile of Participants

		Frequency	Percent
Sex	Male	76	35.5
	Female	138	64.5
	Total	214	100.0
Age	>49	2	0.9
	20-24	144	67.3
	25-29	38	17.8
	30-34	16	7.5
	35-39	9	4.2
	40-44	4	1.9
Occupational status	45-49	1	0.5
	Employed	88	41.1
	Unemployed	107	50.0
	Self-employed	17	7.9
Marital status	Retired	2	0.9
	Unmarried	164	76.6
	Separated/divorced	3	1.4
	Married	45	21.0
	Widowed	2	0.9

4.2 Validity and Reliability Tests

Table 3 shows the results of the data validity and reliability tests. With an alpha value of 0.713, tourism addiction maintained eight indicators. Narcissism has formed two elements: the first had four with an alpha value of 0.713, and the second had four with an alpha value of 0.704, respectively. The third component had 6 with an alpha value of 0.749. Self-esteem resulted in

two components: The first component had 5 indicators with an alpha value of 0.749. The second component had 4 with an alpha of 0.678. In addition, social media is further divided into two parts: the first part stored 13 indicators with an alpha value of 0.914. The second component of social media addiction also included six indicators with an alpha value of 0.830.

Table 3
Results of Validity and Reliability Tests

Variable and Indicators	Factor Loadings	Cronbach's Alpha
Tourism addiction		0.713
T3 I become nervous if I don't travel.	0.829	
T6 When I'm not traveling, I want to be content.	0.821	
T4 I become fatigued if I don't travel.	0.808	
T8 When I'm not traveling, I have an insatiable need to be happy.	0.791	
T5 I get tense if I don't travel. I am less content if I do not travel for an extended time.	0.782	
T7 If I'm not traveling, I want to be happy all the time.	0.734	
T2 I get stressed if I do not travel.	0.724	
T1 If I do not travel, I am easily insulted.	0.673	
Narcissism (1)		0.713
N10 I enjoy compliments. I'll be a wonderful person.	0.851	
N11 Everyone keeps telling me that I'm good, therefore I know I am.	0.751	
N6 I have a natural ability to persuade others.	0.617	
N9 I considered myself to be unique.	0.493	
Narcissism (2)		0.704
N7 I enjoy being the focus of attention.	0.819	
N3 Being the centre of attention suits me well.	0.802	
N13 If I have the chance, I like to show off.	0.685	
N12 I am naturally a leader.	0.415	
Narcissism (3)		0.757
N16 I am firm.	0.860	
N5 I would consider myself to be a powerful person.	0.725	
N15 I always know exactly what I'm doing.	0.677	
N1 I consider myself to be an excellent leader.	0.657	
Narcissism (4)		
N4 I enjoy having power over others.	-0.655	
N8 People always appear to respect my authority.	-0.477	
Self-esteem (1)		0.749
S4 I, like other people, am capable of executing a variety of tasks.	0.784	
S1 I consider myself to be valuable, at the very least on an equal footing with others.	0.719	
S2 I believe I possess many positive qualities.	0.698	
S6 Overall, I'm happy with who I am.	0.688	
S7 I wish I could have more self-respect.	0.600	
Self-esteem (2)		0.678
S8 I occasionally feel useless.	0.824	
S9 I sometimes feel like I'm not very good.	0.788	
S3 Overall, I have the impression that I failed.	0.608	
S5 I don't think I have many things to be proud of. I have a good outlook on myself.	0.573	
Social media addiction (1)		0.914
SM4 Sometimes I utilize social media more than I intended.	0.912	
SM12 I want to strictly limit how much I use social media.	0.903	
SM1 I'm curious about what's going on on social media.	0.716	
SM15 When I'm feeling lonely, I spend time on social media.	0.681	
SM3 Sometimes I spend more time on social media than I realize.	0.641	
SM8 I'm not sure how time passes when I'm on social media.	0.614	
SM9 Recently, I've been considering what has been happening on social media.	0.581	
SM13 I am trying to reduce my time on social media, and I am not getting any success.	0.554	
SM5 I can't seem to quit using social media.	0.552	
SM19 Without social media, I believed my life would be monotonous, empty, and bland.	0.495	
SM6 If I have something important to do, I usually check social media first.	0.492	
SM18 To avoid thinking negatively about my life, I prefer to browse social media.	0.469	
SM10 Every time I decide to stop using social media, I tell myself, "A few more minutes."	0.463	
Social media addiction (2)		0.830
SM17 I made a fruitless effort to stop using social media.	0.822	
SM11 I have tried to stop using social media on occasion, but it has never been successful.	0.761	
SM16 When I'm on social media, I forget about everything.	0.725	
SM2 When I haven't checked social media in a long, it fills my head.	0.628	
SM7 I consider browsing social media when I am not connected to the internet.	0.570	
SM14 I use social media to distract myself from my troubles.	0.406	

4.3 Hypotheses Test

The structural model of the first proposed research model is shown in Fig. 2. The probability value, CMIN/DF, CFI, and RMSEA for this model are 0.116, 1.175, 0.980, and 0.029, respectively.

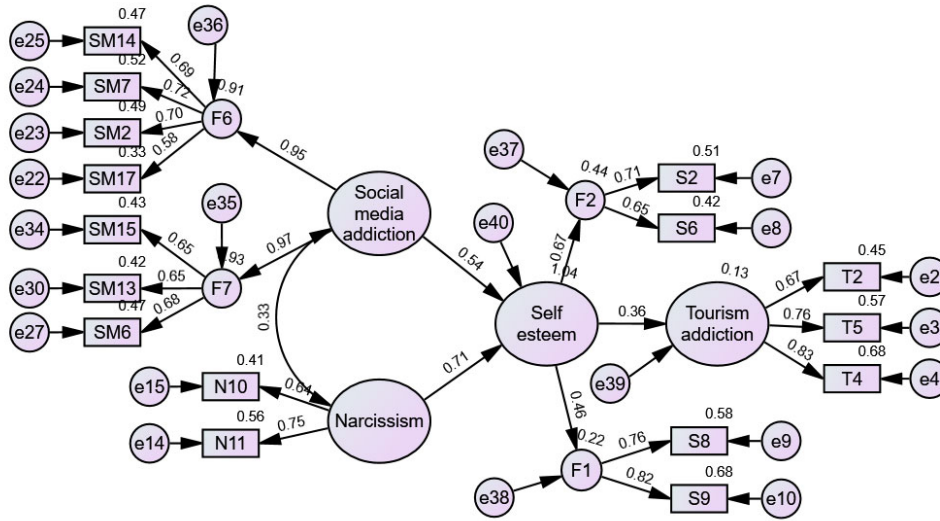


Fig. 2. Structural Model of the First Model Testing

Fig. 3 shows the structural model results from the second research model. This model meets the criteria, with a probability of 0.096, a CMIN/DF of 1.208, a CFI of 0.980, and an RMSEA of 0.031.

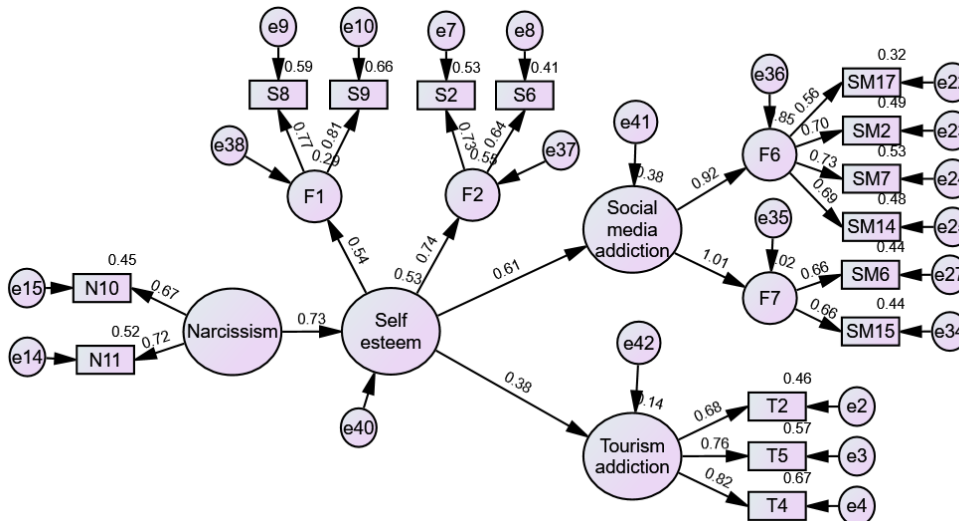


Fig. 3. Structural Model of the Second Model Testing

Table 4 summarizes the hypothesis testing results for both models. For both the first and second models, all hypotheses had a CR score greater than 1.98. As a result, all hypotheses are accepted.

Table 4
Results of Hypotheses Testing for the First and Second Models

Hypotheses	Paths	C.R.	P	Results
H ₁	Social media addiction → Self esteem	4.004	***	Accepted
H ₂	Narcissism → Self-esteem	4.448	***	Accepted
H _{2a}	Narcissism → Self-esteem	3.881	***	Accepted
H ₃	Self-esteem → Tourism addiction	3.658	***	Accepted
H _{3a}	Self-esteem → Tourism addiction	3.126	0.002	Accepted
H ₄	Self-esteem → Social media addiction	3.619	***	Accepted

5. Discussion

Many elements, such as performance expectations, effort expectations, social influence, and enabling conditions for using social media, might influence how social media or online social networks are used. Furthermore, the environmental context,

perceived usability, and perceived simplicity of use are additional factors that can influence how often people use social media. Excessive usage of social media, on the other hand, might lead to an addiction state. The first hypothesis looks at how social media addiction affects self-esteem. Based on the test results, this hypothesis received a C.R. score of 4.004 and as a result, it is accepted. In this case, the participants in this study used social media to escape from their troubles and feel isolated. The participants also acknowledged failure when attempting to limit their time spent on social media. Hawi and Samaha (2017) state that social media addiction raises self-esteem.

As seen in the two research models, this study investigated the role of narcissism in creating self-esteem. From the calculation results, the second hypothesis of the first model obtained a CR score of 4.448. Moreover, the second hypothesis of the second model achieved a CR score of 3.881, showing significance, and therefore, these are accepted. Tourists on vacation visit the destination and take various photos. If the tourists were not narcissistic, they would limit themselves to taking photos and videos of themselves. Next, they lightly share the photos and videos on social media platforms, but if they have self-esteem, they cannot do it.

In the first model, the third hypothesis predicts the ability of self-esteem to make tourists addicted to tourism. This hypothesis obtains a CR score of 3.658, which indicates that this hypothesis is accepted. In the second model, self-esteem again predicts tourism addiction and gets a CR score of 3.126. Therefore, these two hypotheses obtain significant CR values. Tourists with high self-esteem have few barriers to using social media, such as creating and sharing content while traveling. They share content not without strings attached. They hope to get praise, likes, and positive comments from their followers and acquaintances. As they gain praise, likes, and positive comments, they can slowly but surely, without them knowing it, fall into an addiction to traveling far and wide to create more exciting content.

A final hypothesis proposes that self-esteem influences social media addiction. Busari et al. (2019) found that self-esteem is one of the influencing factors of social media addiction. The fourth hypothesis was accepted with a score of 3.619. As with the previous hypothesis, excessive self-esteem can lead to addiction. Tourists out of control of their self-esteem tend to get addicted to using social media and they post more and more holiday photos in hopes of getting a positive response from their followers and acquaintances. Like an endless circle, this social media addiction will re-create self-esteem, as shown in the first hypothesis.

6. Conclusion

This study explored the role of social media addiction as a predictor and a predictor variable in two separate research models. The first model employs social media and narcissism to assess self-esteem and tourism addiction. The second applies narcissism and self-esteem to measure social media addiction and tourist addiction. As a result, social media addiction and narcissism have a favourable and significant effect on self-esteem, and self-esteem influences social media addiction and tourism addiction.

The findings above broaden the scope of tourism marketing research to include addiction and psychographic factors such as narcissism and self-esteem. These findings are also crucial for the future of cyber or digital marketing. These findings are significant for organizations that utilize cyber marketing methods since the research findings show that by intelligently optimizing their promotional tools, they have the opportunity to reach the right target market.

Several limitations should be acknowledged in this study. Firstly, because the easily chosen participants do not represent any community or society, the research findings cannot be generalized to circumstances other than those analysed. Secondly, we did not employ a sampling framework, so participants came from various backgrounds and categories. As a result, future research should improve the standards for journalists who may be involved in tourism marketing surveys like this one.

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