

# Young Adults' Behaviour and Motivations toward Selfie-Posting

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## Abstract

Taking and posting selfies on Social Networking Sites (SNSs) have gained popularity recently. The SNSs have become a platform for users to build their online reputations and presence as desired regardless of its positive and negative outcomes. These acts may have boosted one's self-esteem and succeeded in gaining public attentions and acceptance. This research is conducted to test the Selfie-Stadium Model together with two independent variables – Self-Esteem (representing Social Comparison Theory) and Narcissism – to see their impacts on the young social media fans from the Malaysian diverse multicultural backgrounds. Interestingly, the young adults are quite humble, positive-minded and seem to be in control of themselves as a sign of maturity, in expressing their opinions on selfie-posting behaviour. This research is a contribution to the empirical sphere supported with quantitative data. It opens up more avenues for future researchers to test validated models to a different target audience, background and cultures.

**Keywords:** *Selfie, Selfie-Posting Behaviour, Social Media, Young Adults, Selfie-Stadium Model, Narcissism*

## 1. Introduction

Social networking sites (SNSs) such as Facebook, Instagram, and Twitter have reached tremendous growth and popularity in the past few years due to the ease of access to these platforms. In fact, SNSs have become the most commonly accessed websites on the Internet (Tiggemann & Slater, 2014). However, a notable trend has emerged in SNSs these last few years where photo sharing has become a significant part of the online social experience. Since social media provides an arena for users presenting oneself (Kim & Chock, 2017), posting selfies on social media has become a common and popular activity for users (Guo, Liu, Ding, Hu, Zhen, Liu & Jiang, 2018). Social media users take the advantage of social media to create a forged identity with their desired self-related information by posting selfie (Chua & Chang, 2016; Lyu, 2016). In other words,

users present themselves online with a fabricated identity through selfies for social recognition (Burrow & Rainone, 2017) and enhanced self-worth (Pounders, Kowalczyk & Stowers, 2016). Due to this, "selfie" became word of the year for Oxford Dictionaries in 2013 (Shin, Kim, Im, & Chong, 2017) which was defined as "a photograph that one has taken of oneself, typically with a smartphone or webcam and shared via social media" (Oxford Dictionaries, 2013).

## 2. Problem Statement

Nowadays, selfies could be seen as a globally popular cultural phenomenon (Chae, 2017). Winter (2014) revealed that more than 17 million selfies are uploaded to social media each week with currently around 439 million selfies can be found through #selfie in the Instagram (Instagram, 2020). This becomes the witness of dramatic increase of selfie taking and posting behaviour. Furthermore, the advancement of technology gives a wide opportunity for people to present themselves online including presenting an identity that is totally different from offline identity. With the availability of tools and time, one can carefully select the information and the ideal identity to be presented for the online audience.

Aligned with the popularity of selfies, it earned a great attention from the academic scholars to examine the relationship between self-personality traits (such as self-esteem and narcissism) and selfie posting behavior. For example, a study found that those who post their selfies on social media used selfies as a self-esteem booster (Moneva, Perolino & Ycong, 2020) as people can control how they are portrayed in their social network profile and hence they were able to increase their self-esteem momentarily (Gonzales & Hancock, 2011). In contrast, Barry, Doucette, Loflin, Rivera-Hudson and Herrington (2017) revealed that there was no significant relationship between self-esteem levels and the number of selfie postings. It appeared that

there is no difference on the willingness of individuals with low self-esteem and those with high self-esteem to post selfies on SNSs.

Besides, the existing scholarly literature had also focused upon the association of narcissism to the use of social media. The results reported from prior studies have shown positive association between narcissism and specific SNSs use including status updates or picture postings (Marshall, Lefringhausen, & Ferenczi, 2015; Ryan & Xenos, 2011). In fact, many studies have identified narcissism as an important predictor of selfie practices on SNSs (Weiser, 2015). In contrast, in a more recent study by Wu, Song, and Ma (2019) did not find any association between selfies and narcissism. As the previous research investigating those relationship have produced mixed results, this research is conducted to fill the gap by examining the effect of self-esteem and narcissism on selfie posting behavior and motivation among youth in Malaysia.

These two personality traits are used because there are commonalities between self-esteem and narcissism as pointed out by the prior studies (Campbell, 2001). In addition, as self-esteem and narcissism have frequently been proposed as important considerations in the rise of a selfie culture, empirical data on this issue are quite limited to date (Barry, *et al.*, 2017). Besides, this study is conducted in Malaysia because many prior literature about selfie-posting behavior were done overseas such as studies involving the Instagram users in US public university (Barry *et al.*, 2017), social media users in Turkish university (Arpaci, Yalçın, Baloğlu & Kesici, 2018); Poland university and vocational schools (Sorokowski, Sorokowska, Frackowiak, Karwowski, Rusicka, & Oleszkiewicz, 2016); USA university (Pounders, Kowalczyk, & Stowers, 2016) and Australian university (March & McBean, 2018); limited research was done in Malaysia.

In this sense, the study on what motivates the individual selfie-posting behavior had become a popular issue examined by many of the academic scholars previously. However, studies to date have rarely investigated the behavior that often comes pre-posting or before posting a selfie (Chae, 2017). Consciously, the investigation of pre-selfie-posting behavior leading up to the actual act of posting a selfie is important because constructing an online visual self-presentation is not only comprised of posting a selfie but is rather explained by the underlying behaviors related to constructing a selfie such as selecting the right photos and editing them for perfection before posting. Therefore, this research also profiles selfie-makers' motivation by applying the Selfie-Stadium Model as proposed by de Vaate, Veldhuis, Alleva, Konijn and Hugten (2018) in an attempt to find out the various steps taken by the young adults before actually posting a selfie. Overall, in this study, the researchers aimed to

combine the front-stage and back-stage selfie posting behaviour and motivations as a back-to-back process as no research has done so in the past, at least, not to the knowledge of the researchers.

## 2.1 Research Questions and Research Objectives

Based on the problem statement, the research questions and research objectives are summarised as the following (Table 1):

Table 1: Research Questions and Research Objectives

Research Question	Research Objective
1. What is the relationship between motive and selection of selfie among the social media users in Malaysia?	1. To examine the relationship between motive and selection of selfie among the social media users in Malaysia.
2. What is the relationship between pre-occupation and selection of selfie among the social media users in Malaysia?	2. To examine the relationship between pre-occupation and selection of selfie among the social media users in Malaysia.
3. What is the relationship between selection and selfie editing among the social media users in Malaysia?	3. To examine the relationship between selection and selfie editing among the social media users in Malaysia.
4. What is the relationship between selfie editing and selfie-posting behavior among the social media users in Malaysia?	4. To examine the relationship between selfie editing and selfie-posting behavior among the social media users in Malaysia.
5. What is the relationship between self-esteem and selfie-posting behavior among the social media users in Malaysia?	5. To examine the relationship between self-esteem and selfie-posting behavior among the social media users in Malaysia.
6. What is the relationship between narcissism and selfie-posting behavior among the social media users in Malaysia?	6. To examine the relationship between narcissism and selfie-posting behavior among the social media users in Malaysia.

## 3. Significance of Study

The findings of this study are an addition to the empirical knowledge as it is backed up with quantitative analyses; it is a Social Science study involving human interactions with technology. Indirectly, technological developments change the way humans do things, in particular, taking photos, sharing them and keeping the memories. From the practical perspective, this study helps developers to explore other innovative ways to enhance the functions of their devices, making it safer or enjoying the flexibility of multitasking at one time.

## 4. Literature Review

4.1 Early research on Self-Presentation (theory)  
Self-concept has been an important topic in psychology for a very long time. According to Markus and Wurf (1987), self-concept is constructed into two structures: core self-concept (characterized by stability) and working self-concept (characterized by flexibility and being influenced by the social settings). Core self-concept is more stable structure such as name, body self, roles and self-evaluation. On the other hand, working self-concept is a temporary and flexible structure that integrates the core self-concept with social stimuli. Brewer (1991) stated that there are two essential needs that people have, and these include the need to be similar to other (social self) and the need to be unique (personal self). In 1988, Carl Backman emphasized the transformation of self-concept in the context of social relations. This includes a personal and social self which is showing the image of unique aspect of self and about the groups to which individual belong. Self in this context modifies the experiences and mediate intrapersonal and interpersonal processes. According to Monteil and Martinot (1991), self-concept is a knowing system about oneself and this topic has grown into many new concepts such as self-perception phenomenon (Bem, 1972), self-awareness (Wicklund, 1975) and self-monitoring (Snyder, 1979).

Social networking sites like Facebook and Instagram serves as platforms for selfies. Posting selfies online is a form of online self-presentation. In addition to sharing one's own profile, connecting to each other, and building relationships over a period of time, people also use social media for self-presentation, self-exploration, and self enhancement (Amichai-Hamburger, 2007; Amichai-Hamburger & Hayat, 2013). In cyberspace, social cognition approach can be adapted to the online self-presentation for which individual presents personal self, social self, core self-concept and working self-concept (Stanculescu, 2011). Early research on self-presentation by Goffman (1978) suggested that social behaviors can be identified as differing in front stage and back stage behaviors. Individuals tend to behave in ways to meet other's expectations in the front stage behavior; meanwhile, back stage is referring to the place where front behaviors are prepared. Stanculescu(2011) added that online self-presentation could contain self-serving bias as people have the tendency to present positive light about themselves such as competent, successful, attractive, and social skillful person.

### 4.2 Steps in Selfie-Posting Behaviour – The Selfie-Stadium Model (Independent Variables)

This research is trying to understand the selfie-posting behaviour and the motivation by applying the Selfie-Stadium Model proposed by de Vaateet *al.*, (2018). All the steps in this model are: Motives, Pre-occupation, Selection and Editing have been adopted in this study.

#### 4.2.1 Motives

In the Selfie-Stadium Model, Motive is the first step in the process of selfie making. Individuals must have motives or reasons for making selfies before they can make self-presentations on any social networking sites. Many studies have shown a variety of motives in selfie making such as attention seeking, to fulfill social needs and self-expression (Sung, Lee, Kim & Choi, 2016). This step also applies the literature on social functions of personal photographs in general and Facebook to understand the motives of taking and sharing selfies on SNS such as Facebook. According to Van House, Davis, Ames, Finn and Viswanathan (2005), people share pictures for self-presentation, self-expression, to reflect existing relationships, to maintain relationship and to cultivate a new one. Based on these various motives, this study aims to investigate the underlying motives of selfie-posting behaviour.

#### 4.2.2 Pre-occupation

In this model, de Vaateet *al.*, (2018) also presented Pre-occupation as another step taken together with Motive and it is referring to the involvement of individuals in selfie-posting behaviour on SNS. Such behaviours are looking at selfies, tagging, sharing and commenting on selfies of others which the authors believe will direct individual perceptions of desired behaviour on selfies. Meier and Gray (2014) also defined pre-occupation as the willingness of individuals to look at other people's selfie and give comments.

#### 4.2.3 Selection

The next step in the selfie-process is selecting the best own-self selfies to be posted on SNS. Impression management drives people to consciously select selfies and to present themselves through selected pictures that can make them look the best. In another perspective, Chen, Schaffer and Wu (1997) highlighted that attractive face influences social cognition for which attractive face people tends to be more favourable traits than those who are less attractive.

#### 4.2.4 Editing

The last step in selfie taking as dictated in the Selfie-Stadium Model is Editing. This step is used to create a better physical appearance of individuals for the purpose of self-presentation. There are many software applications that enable individuals to

beautify pictures before posting it publicly on SNS. With good-looking pictures, SNS users are more likely to receive higher responds and attentions from others for example comments and likes (Salomon, 2013). Therefore, Editing has been proposed by de Vaateet *al.* (2018) as the last step before individuals post their selfie picture online.

#### 4.3 Social Comparison Theory

Another part of this study has adopted the Social Comparison Theory in understanding the posting behaviour and motivation of selfies. In 1954, Festinger introduced Social Comparison Theory to describe how people ease insecurity in specific circumstances by comparing themselves to others and to examine the way of human self-defined. The drive of human beings to achieve their opinions and understand their abilities leads to comparisons with others when they are incapable of evaluating their views and abilities (Festinger, 1957). This theory initially contains comparisons of opinions and abilities but then it has expanded to include other features such as emotions (Gibbons & Buunk, 1999). The researchers also argue that people with certain personalities have high tendency of doing social comparison. Among those traits are high narcissism and low self-esteem (Buunk & Gibbons, 2007). The direction of comparison is either upward or downward comparison. Upward comparison defines self-comparison with others that are better than own-self while downward comparison defines self-comparison with others that are worse than own-self (Festinger, 1957). Among all media, social media is one of the platforms that allows social comparison to take place (Shin *et al.*, 2017).

Some previous studies have applied Social Comparison Theory in different areas. Gentina, Huarng and Sakashita (2018) employed Social Comparison Theory on mothers' clothing co-consumption behaviors. The finding showed that the level of self-esteem has positive impact on mothers' clothing co-consumption practices with teenage daughters. Powell, Wang-Hall, Bannister, Colera and Lopez (2018) applied Social Comparison Theory to women's body image concerns. They found that social comparison significantly influenced women's body satisfaction. Moreover, Chen, Lu and Zhang (2017) applied Social Comparison Theory in explaining individual's driving behaviors. It showed that social comparison significantly related with role of status which reflects on driving behavior as high-status car reduces the traffic violations. Two significant dimensions of Social Comparison Theory are Social Sensitivity and Self-Esteem. This study employs Self-Esteem to explain selfie-posting behavior.

#### 4.3.1 Self-Esteem

Self-Esteem is one of the dimensions of Social Comparison Theory and this dimension has been used in developing the research framework of this study. There are quite a number of definitions of Self-Esteem by many researchers. Shin *et al.*, (2017) defined Self-Esteem as the evaluation of individuals on their self-worth or adequacy as well as satisfaction. Other researchers also defined Self-Esteem as an evaluation or judgement of self-worthiness of individuals (Coopersmith, 1967; Rosenberg, 1979). A highly satisfaction of self-evaluation meant high Self-Esteem, while low Self-Esteem refers to dissatisfaction to oneself (Baumeister, Campbell, Krueger, & Vohs, 2003). The social comparison mostly occurs in social media due to people can easily display themselves, communicate and provide feedback to others on social media (Shin *et al.*, 2017). For instance, individuals tend to post selfies on social media to enhance their Self-Esteem due to feedback received from others which reflects on number of 'likes' that they will receive (Pounders *et al.*, 2016). Therefore, Self-Esteem is influenced by the result of social comparison.

#### 4.4 Narcissism

Narcissism is distinguished as overload self-love, respect, and overstated attention to the self (Guedes, 2017). Since the narcissists tend to pursue out consideration to maintain their self-enhancement, they are more likely to produce self-promoting content that can carry desired self-views and post publicly on the SNS (Kim & Chock, 2017). They found that Narcissism works as a key predictor of incentives for selecting and posting selfies that focus social attraction and physical for both men and women. Further empirical evidence was provided by Wang (2017) who found that more narcissistic people expressed larger amounts of Facebook exercises and posted more self-promoting substance on their profiles. It is reasonable to state that Narcissism was positively affected by selfie-posting behavior.

The term Narcissism was used and first made by Ellis in 1898 and this term was merged into a theory which is in his article 'On Narcissism'. Narcissism is distinguished as overload self-love, respect, and overstated attention to the self. Narcissists tend to increase their value, achievement, and recognition (Guedes, 2017). In addition, narcissists seek self-improvement through interpersonal relationships by establishing themselves with others (Moon, Lee, Lee, Choi & Sung, 2016) and using their social relationships to look appealing and high-status (Arpaci, *et al.*, 2018).

Furthermore, Narcissism identifies with the exemplary perspective of the condition, particularly

with regards to initiative since narcissists have an expanded perspective of them and frequently think they are superior to anything they are (Guedes, 2017). In addition, narcissists embrace extravagant but uneven views of their abilities, individuality, and social application, which they preserve through self-centered and exhibitionistic judgements and arrangements (Buss & Chiodo, 1991).

Since selfie taking and posting behavior permits people on specifically exhibit appealing and self-promoting photographs of themselves (Chua & Chang, 2016; March & Mcbean, 2018), it is achievable that such conduct would be more typical in those with high narcissism. The action of choosing selfies and posting them on SNS may work as a selfie taking and posting behavior through which narcissists try to meet their target (McCain, Borg, Rothenberg, Churillo, Weiler & Campbell, 2016).

Besides, Narcissism has been found to be a strong predictor of selfie taking and posting behaviors. Many recent studies have repeatedly shown that Narcissism to be reflected in selfie-posting behavior and it is significantly and positively associated with selfie posting activities (e.g., Halpern, Valenzuela & Katz, 2016; Lee & Sung, 2016), content-specific (Grosz, Löscher, & Back, 2017), and users' self-disclosure (Halpernet al., 2016).

#### 4.5 Selfie-Posting Behaviour and Motivation (Dependant Variable)

The aim of this study is to understand the psychological impetus of the selfie-posting behaviour and motivation, which is the dependent variable of this study. There are many factors that have been found linked to the selfie-posting behaviour and motivation in the previous research. According to Charoensukmongkol (2016), loneliness, attention seeking, and self-centered behavior have a strong relationship with selfie-posting behavior. Thus, this study intended to examine the psychological antecedents of taking and posting selfies to comprehend the underlying mechanism. Selfie-posting on social media also can be indicated as an online activity of self-promoting (Biolcati & Passini, 2018). Selfie-posting behavior has been described as the way of individuals visually present themselves to netizens on social media (de Vaateet al., 2018). According to Barry et al. (2017), selfie-posting is a normal behavior for social media users because photo sharing is an important part of the online social experience. Thus, this study aimed to examine the determinants that motivating individuals' selfie-posting behavior.

#### 4.6 Proposed Research Framework

Based on the Review of Literature, Figure 1 portrays the proposed research framework.

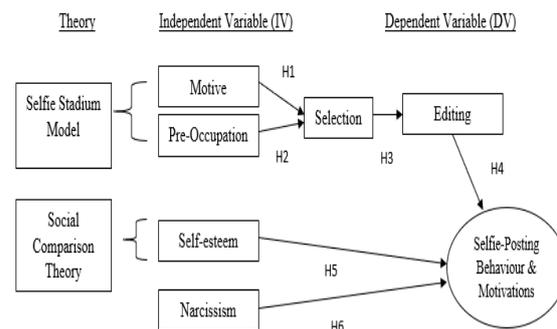


Fig. 1: Proposed Research Framework

Based on Review of Literature and the proposed research framework (Figure 1), six hypotheses have been developed and tested. They are:

H1: There is a positive and significant relationship between Motive and Selection

H2: There is a positive and significant relationship between Pre-Occupation and Selection

H3: There is a positive and significant relationship between Selection and Editing

H4: There is a positive and significant relationship between Editing and Selfie-Posting Behaviour and Motivations

H5: There is a positive and significant relationship between Self-Esteem and Selfie-Posting Behavior and Motivations

H6: There is a positive and significant relationship between Narcissism and Selfie-Posting Behavior and Motivations

### 5. Research Methodology

#### 5.1 Pilot Study

A pre-testing of the questionnaire was conducted in December 2020. 40 respondents took part in the pilot test in order to prove its reliability (Molla & Licker, 2005). Table 2 below shows the results of the pilot test according to the research variables. Based on the result, the Cronbach's coefficient alpha values of dependent variables (DV) and independent variables are ranging from 0.655 to 0.955. It indicates that Motive (MO) has the highest reliability of variable while Selfie-Posting Behaviour and Motivations (SP) has the lowest.

Table 2: Pilot Test result of Reliability

Variables	Cronbach's Coefficient Alpha Value
Motive (MO)	0.955
Pre-Occupation (PR)	0.685
Selection (SE)	0.850
Editing (ED)	0.854
Self-Esteem (SF)	0.768
Narcissism (NC)	0.715
Selfie-Posting Behaviour (SP) and Motivations	0.655

## 5.2 Research Design

The purpose of this research is to find out the selfie-posting behaviour and motivations among Malaysian youth. The targeted respondents were private university students aged between 19-30 years as these groups represent the digital natives. A cross-sectional research was done as it allowed researchers to conduct research faster and in a cost-effective manner (Setia, 2016) especially during the COVID-19 lockdown durations. As a result of that, the online questionnaire using Google forms was used to collect primary data from all respondents.

## 5.3 Data Collection Method

Since this research is quantitative in nature, data collection using a survey questionnaire will be suitable for the researchers. A Google form was used for this purpose.

### 5.3.1 Sampling Design

In Malaysia, the highest smartphone owners (53.5%) are aged between 20-34 with 84.8% smartphone adoption rate (Internet Users Survey, 2017) and the highest Internet users are aged between 20-24 and the top online activities are text communication, social media, voice or video communication, watching videos and searching for information (Internet Users Survey, 2020). They represent digital natives of Malaysia. Considering the time constraint and the lockdown durations between January to March 2021, this research has chosen the private university students as its sample. Based on item-to-response ratio, the recommended sample size is 320, however, only 282 respondents took part and completed the questionnaires.

## 5.4 Data Analysis

The collected data will be analysed in a Descriptive manner, testing its Reliability, adopting Pearson Correlations, Normality Tests, Multiple Linear

Regressions and One-way analysis of variance (ANOVA).

### 5.4.1 Descriptive Analysis

Descriptive statistics summarise and manage the data into an easily understood manner but do not draw any inference of the whole population from the selected sample (Narkhede, 2018). Descriptive statistics involved the measurements of frequencies that simply count how many times that each variable occurs (Korb, 2013); measures of central tendency include the mean, median and mode; measures of variability include the standard deviation (or variance), the minimum and maximum values of the variables, kurtosis and skewness (Wikipedia, n.d.).

### 5.4.2 Reliability Test

Reliability test aimed at examining the consistency of variables using Cronbach's Alpha. According to Sekaran and Bougie (2013), the closer the Cronbach's Alpha value approaches 1.0, the higher the reliability of variables.

### 5.4.3 Pearson Correlation

Pearson Correlation analysis is applied to measure the strength of the relationship between two variables and their association with each other. In other words, Pearson Correlation analysis is applied to explore the relationship between two variables, X and Y (variables) and calculates the effect of change in one variable when the other variable changes. However, when coefficient values among the IVs exceed 0.9, then, multicollinearity problem will occur (Hair, Anderson, Tatham, & Blank, 1998).

### 5.4.4 Normality Test

Normality test is employed to examine if IVs and DV are normally distributed. Skewness and kurtosis are used for the test in the study. Skewness measures the degree of symmetry (Sheskin, 2011), and kurtosis measures the extent of the tail in the distribution of variables (Westfall, 2014). According to Garson (2012), the data is normally distributed if the skewness and kurtosis values are within  $\pm 2$ .

### 5.4.5 Multiple Linear Regression (MLR)

$R^2$  is used to determine how well the independent variables (IVs) can be explained by the dependent variable (DV). Hair, Babin, Money and Samouel (2013) defines that  $R^2$  value of 0.75, 0.5 or 0.25 in PLS path model as considerable, reasonable or weak separately.

### 5.4.6 One-way Analysis of Variance (ANOVA)

One-way ANOVA is a type of statistical test that compares the variance in the group means within a sample whilst considering only one independent variable or factor. It is a hypothesis-based test,

meaning that it aims to evaluate multiple mutually exclusive theories about the data (Mackenzie, 2018).

## 6. Results and Discussion

Next, the results of data analysis will be presented, followed by discussions on the findings. This section has been divided according to the following: Demographic Profile of Respondents, Reliability Analysis, Pearson Correlation Analysis, Central Tendencies Measurement of Constructs, Normality Test, Multiple Linear Regression and Variance Analysis for the Model Summary and One-way Analysis of Variance for each variable in the research framework

### 6.1 Demographic Profile of the Respondents

In total, 282 undergraduate students studying in a private university took part in this research (Table 3). From the 282 students, majority of the respondents were female students (67%, 189 respondents) while male students comprised about 33% (93 students). Their age ranged from 19 years old (8.9%, 25 students), 20 years old (47.5%, 134 students), 21 years old (31.6%, 89 students), 22 years old (6.7%, 19 students) and older (5.4%, 15 students). More than half of the respondents were Instagram fans (71.3%, 201 respondents), followed by 16% (45 respondents) Facebook users and 12.1% (34 respondents) owned more than one SNS or have social media accounts other than Facebook, Instagram and Twitters.

Table 3: Demographic Profile of the Respondents

Gender	Frequency	Percentage (%)
Male	93	33
Female	189	67
Age	Frequency	Percentage (%)
19 years old	25	8.9
20	134	47.5
21	89	31.6
22	19	6.7
23	7	2.5
24	5	1.8
25	2	0.7
26	1	0.4
Types of Social Networking Sites (SNS)	Frequency	Percentage (%)
Facebook	45	16
Instagram	201	71.3
Twitter	2	0.7
Own more than one SNS/ Other SNS	34	12.1
<b>TOTAL</b>	<b>282</b>	<b>100</b>

### 6.2 Central Tendencies Measurement of Constructs

Table 4 indicates the mean and standard deviation for all items in each construct. The mean values of Motive ranged from 2.5355 to 3.8936, Pre-Occupation ranged from 2.6206 to 3.7340, Selection ranged from 2.3085 to 3.7695, Editing ranged from 2.0106 to 3.3759, Self-Esteem ranged from 3.3191 to 3.7624, Narcissism ranged from 2.8475 to 3.4326 and the Selfie-Posting Behaviour and Motivations ranged from 1.7270 to 4.1277.

The results for Motive to take selfies showed that most respondents slightly disagreed or neutral to almost agreed, while for Pre-Occupation (involved in tagging or looked at selfies posted by others), most respondents showed slightly disagreed to almost agreed. In Selection (the reasons for taking or posting selfie), most respondents showed from disagreements to almost agreed, while in Editing the photos, most respondents were in-between disagreements and being neutral.

In addition, for the feeling of one's Self-Esteem, most respondents chose from being neutral to almost agreed and for being a narcissistic, most respondents showed that they were in-between disagreements to being neutral. Lastly, for the Selfie-Posting Behaviour, the range indicated the preferred time to post a selfie, number of selfies posted and the types of selfies taken.

Table 4: Central Tendencies Measurement of Construct

Variable	Item	N	Mean	Standard Deviation
Motive (MO)	MO1	282	3.8936	0.89444
	MO2		3.6170	0.82798
	MO3		3.5816	0.85335
	MO4		2.8404	0.89247
	MO5		2.9858	0.83505
	MO6		2.8901	0.87592
	MO7		2.8475	0.85297
	MO8		3.2057	0.79606
	MO9		3.2270	0.83405
	MO10		3.4965	0.92513
	MO11		3.2199	0.86112
	MO12		3.4504	0.85164
	MO13		3.2234	0.92979
	MO14		2.8972	1.06383
	MO15		2.7589	1.08959
	MO16		2.8404	1.00146
	MO17		3.0461	0.90942
	MO18		3.0461	0.92878
	MO19		3.0248	0.81974
	MO20		3.1064	0.85789
	MO21		3.0638	0.81980
	MO22		3.0284	0.87221
	MO23		3.0248	0.83693
	MO24		2.5355	0.90892
	MO25		2.9787	0.86833
	MO26		3.0993	0.83351
	MO27		3.0000	0.92417
	MO28		2.6241	0.90502
	MO29		2.7730	0.96463
	MO30		2.6879	0.93287
	MO31		2.8298	0.93913

Pre-Occupation (PR)	PR1	282	3.7340	0.74283
	PR2		3.6525	0.73534
	PR3		3.2411	0.87594
	PR4		3.0567	0.91077
	PR6		2.6206	0.94398
Selection (SE)	SE1	282	3.3617	0.68825
	SE2		3.2943	0.84485
	SE3		3.6418	0.77512
	SE4		3.7695	0.73066
	SE5		3.5780	0.86609
	SE6		3.5674	0.78514
	SE7		3.4149	0.81021
	SE8		3.3794	0.85288
	SE9		3.4610	0.93958
	SE10		3.2766	0.88969
	SE11		2.3085	0.92062
	SE12		3.0567	0.82032
	SE13		2.9716	0.88437
Editing (ED)	ED1	282	3.3759	1.03352
	ED2		2.9610	1.01689
	ED3		3.1596	1.05341
	ED4		2.0106	0.89476
Self-Esteem (SF)	SF1	282	3.3830	0.83653
	SF3		3.3191	0.77615
	SF4		3.3972	0.75344
	SF7		3.4113	0.83577
	SF8		3.7624	0.73325
	SF10		3.7340	0.73318
Narcissism (NC)	NC1	282	3.4326	0.70892
	NC2		3.2234	0.92979
	NC3		3.1418	0.87741
	NC4		3.0496	0.71413
	NC5		3.0887	0.69257
	NC6		3.1383	0.72477
	NC7		3.0709	0.70731
	NC8		2.8688	0.83548
	NC9		3.0071	0.93181
	NC10		2.8475	0.84036
Selfie-Posting Behaviour and Motivations (SP)	SP1	282	4.1277	1.10225
	SP2		1.7270	0.91250
	SP3		1.8050	0.88538
	SP4		3.6064	0.85060
	SP5		3.3014	0.93827
	SP6		3.4326	0.93035
	SP7		2.8227	1.01086
	SP8		2.2411	0.92725
	SP9		2.8723	1.12146

### 6.3 Reliability Analysis

Based on Table 5, the Cronbach Alpha coefficient values ranged from 0.542 to 0.929. The highest value is Motive (MO) which is 0.929, followed by Selection 0.867 while among the lowest are Pre-Occupation (0.639) and Selfie-Posting Behaviour and Motivations (0.542) itself. For survey items to be considered reliable and consistent, Cronbach Alpha value should be 0.7 (Heale & Twycross, 2015; Sekaran & Bougie, 2013).

Table 5: Reliability Test

Independent Variable	Cronbach Alpha	Dependent Variable	Cronbach Alpha
Motive (MO)	0.929	Selfie-Posting Behaviour and Motivations (SP)	0.542
Pre-Occupation (PR)	0.639		
Selection	0.867		

(SE)			
Editing (ED)	0.764		
Self-Esteem (SF)	0.832		
Narcissism (NC)	0.735		

### 6.4 Pearson Correlation Analysis

To determine the relationship between two variables which are continuous such as Motive to Selection, Pearson Correlation analysis is conducted. Referring to Table 6, all correlation values signified that they had positive correlations. The highest correlation value was 0.658 (Motive to Selection) and the lowest correlation was 0.111 (Narcissism to Selfie-Posting Behaviour and Motivations). In conclusion, there was no multicollinearity problem faced as all scores were below 0.9.

Table 6: Pearson Correlation Analysis

Variable	Pearson Correlation Results
Motive (MO) → Selection (SE)	0.658 Significant at the 0.01 level
Pre-Occupation (PR) → Selection (SE)	0.645 Significant at the 0.01 level
Selection (SE) → Editing (ED)	0.277 Significant at the 0.01 level
Editing (ED) → Selfie-Posting Behaviour and Motivations (SP)	0.218 Significant at the 0.01 level
Self-Esteem (SF) → Selfie-Posting Behaviour and Motivations (SP)	0.230 Significant at the 0.01 level
Narcissism (NC) → Selfie-Posting Behaviour and Motivations (SP)	0.111 Significant at the 0.05 level

### 6.5 Normality Test

To determine whether the data have normal distribution, normality test was conducted and the skewness and kurtosis values for all construct items were derived. Based on Table 7, the highest value for skewness was 1.757 (SP2) and the lowest value was -0.901 (MO1). By contrast, the highest value for kurtosis was 3.656 (SP2) and the lowest value was -0.765 (MO14). In summary, the skewness and kurtosis for all items fulfilled the benchmark of ±2.00 which mean they were normally distributed except for two items, SP2 (the number of selfies taken and posted to social media for the past 30 days) and SP3 (the number of other photos taken and posted on social media for the past 30 days).

Upon checking, most respondents humbly admitted that they either posted zero to ten selfies, or some posted up to 20 selfies in the past 30 days (between January to March 2021). A very small number of respondents admitted that they have taken and posted more than 20 selfies or other photos (up to 30 selfies or photos) during the same duration.

Table 7: Normality Test

Construct	Items	Skewness	Kurtosis
Motive (MO)	MO1	-0.901	1.217
	MO2	-0.510	0.639
	MO3	-0.603	0.584
	MO4	0.107	0.029
	MO5	-0.195	-0.326
	MO6	0.056	-0.192
	MO7	0.020	-0.282
	MO8	-0.429	-0.082
	MO9	-0.447	0.202
	MO10	-0.411	-0.127
	MO11	-0.373	0.005
	MO12	-0.418	0.114
	MO13	-0.111	-0.221
	MO14	-0.043	-0.765
	MO15	0.076	-0.724
	MO16	-0.082	-0.419
	MO17	-0.377	-0.201
	MO18	-0.199	-0.061
	MO19	-0.202	0.827
	MO20	-0.274	-0.129
	MO21	-0.197	0.067
	MO22	-0.055	-0.180
	MO23	-0.304	0.326
	MO24	0.367	-0.209
	MO25	-0.090	-0.308
	MO26	-0.337	-0.200
	MO27	-0.082	-0.461
	MO28	0.177	-0.148
	MO29	0.181	-0.330
	MO30	0.236	-0.031
	MO31	0.060	-0.255
Pre-Occupation (PR)	PR1	-0.420	0.368
	PR2	-0.430	0.616
	PR3	-0.202	-0.140
	PR4	0.001	-0.552
	PR6	0.134	-0.246
Selection (SE)	SE1	0.178	-0.096
	SE2	0.111	-0.117
	SE3	0.026	-0.462
	SE4	0.002	-0.474
	SE5	-0.193	-0.139
	SE6	-0.091	0.070
	SE7	0.197	-0.421
	SE8	-0.018	-0.179
	SE9	-0.392	-0.055
	SE10	-0.420	0.052
	SE11	0.369	-0.039
	SE12	-0.144	0.527
	SE13	-0.100	0.039
Editing (ED)	ED1	-0.492	-0.293
	ED2	-0.106	-0.559
	ED3	-0.231	-0.566
	ED4	0.940	1.056
Self-Esteem (SF)	SF1	-0.268	0.486
	SF3	-0.025	0.452
	SF4	0.053	-0.053
	SF7	-0.122	0.077
	SF8	-0.032	-0.422
	SF10	-0.193	0.125
Narcissism (NC)	NC1	-0.243	1.045
	NC2	0.022	-0.410
	NC3	-0.185	-0.017
	NC4	-0.191	1.018
	NC5	-0.054	0.767
	NC6	0.010	0.016
	NC7	-0.344	0.503
	NC8	-0.081	-0.214
	NC9	-0.227	-0.229
	NC10	-0.213	0.377

Selfie-Posting Behaviour and Motivations (SP)	SP1	-0.785	-0.800
	SP2	1.757	3.656
	SP3	1.539	3.031
	SP4	-0.301	0.008
	SP5	-0.505	0.121
	SP6	-0.376	0.186
	SP7	-0.054	-0.475
	SP8	0.446	-0.116
	SP9	-0.097	-0.706

## 6.6 Multiple Linear Regression (MLR) – Model Summary

Table 8 indicated that 27.9% of Selfie-Posting Behaviour and Motivations are explained by the six independent variables chosen in this research. Indirectly, 72.1% of Selfie-Posting Behaviour and Motivations are influenced by other factors not captured by the research.

Table 8: MLR – Model Summary

Model	R	R Square	Adjusted R square	Std. error of the Estimate
1	.528 <sup>a</sup>	.279	.264	3.46351

a. Predictors: (Constant), IV1MOT, IV3SELF, IV4NAR, IV6EDIT, IV2PRE, IV5SEL

## 6.7 Analysis of Variance (ANOVA) – Model Summary

Table 9 is the analysis of variance involving all six variables and Selfie-Posting Behaviour and Motivations (dependant variable). The overall F-value is significant at 17.756 (p-value is <0.05), hence, the model fit in this research is achieved. It can be concluded that the six chosen variables had influenced Selfie-Posting Behaviour and Motivations.

Table 9: Analysis of Variance (ANOVA) – Model Summary

Model	Sum of Squares	df	Mean Square	F	Sig (p-value)
1 Regression	1277.978	6	212.996	17.756	.000 <sup>a</sup>
Residual	3298.873	275	11.996		
Total	4576.851	281			

a. Predictors: (Constant), IV1MOT, IV3SELF, IV4NAR, IV6EDIT, IV2PRO, IV3SEL

b. Dependent Variable: DVSPB

## 6.8 One-way Analysis of Variance (ANOVA) on Each Variable

In the next section, the strength of the relationship between variables have been conducted using one-way analysis of variance (ANOVA).

### 6.8.1 From Motive to Selection

*H1: There is a positive and significant relationship between Motive and Selection*

Based on Table 10, since the F-value is 4.773 (p-value is <0.05), it is concluded that there is a positive and significant relationship between Motive and Selection. Thus, H1 is accepted.

Table 10: Analysis of Variance – from MOTIVE to SELECTION

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	6415.470	66	97.204	4.773	.000
Within Groups	4378.973	215	20.367		
Total	10794.443	281			

### 6.8.2 From Pre-Occupation to Selection

*H2: There is a positive and significant relationship between Pre-Occupation and Selection*

Based on Table 11, the F-value is 12.199 (p-value is <0.05), it can be concluded that there is a positive and significant relationship between Pre-Occupation and Selection. Hence, H2 is accepted.

Table 11: Analysis of Variance – from PRE-OCCUPATION to SELECTION

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	4749.074	17	279.357	12.199	.000
Within Groups	6045.369	264	22.899		
Total	10794.443	281			

### 6.8.3 From Selection to Editing

*H3: There is a positive and significant relationship between Selection and Editing*

Based on Table 12, the F-value is 2.134 (p-value is <0.05), it can be said that there is a positive and significant relationship between Selection and Editing. Therefore, H3 is accepted.

Table 12: Analysis of Variance – from SELECTION to EDITING

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	331.074	32	10.346	2.134	.001
Within Groups	1207.071	249	4.848		
Total	1538.145	281			

### 6.8.4 From Editing to Selfie-Posting Behaviour and Motivations

*H4: There is a positive and significant relationship between Editing and Selfie-Posting Behaviour and Motivations*

Table 13 shows that for Editing and Selfie-Posting Behaviour and Motivations, the F-value is 2.719 (p-value is <0.05), it is concluded that there is a positive and significant relationship between Editing and Selfie-Posting Behaviour and Motivations. Thus, H4 is accepted.

Table 13: Analysis of Variance – from EDITING to SELFIE-POSTING BEHAVIOUR AND MOTIVATIONS

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	495.124	12	41.260	2.719	.002
Within Groups	4081.727	269	15.174		
Total	4576.851	281			

### 6.8.5 From Self-Esteem to Selfie-Posting Behaviour and Motivations

*H5: There is a positive and significant relationship between Self-esteem and Selfie-Posting Behaviour and Motivations*

For Self-Esteem to Selfie-Posting Behaviour and Motivations, Table 14 shows the F-value of 2.499 (p-value is <0.05), hence, there is a positive and significant relationship between Self-Esteem and Selfie-Posting Behaviour and Motivations, leading to the acceptance of H5.

Table 14: Analysis of Variance – from SELF-ESTEEM to SELFIE-POSTING BEHAVIOUR AND MOTIVATIONS

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	668.427	18	37.135	2.499	.001
Within Groups	3908.424	263	14.861		
Total	4576.851	281			

### 6.8.6 From Narcissism to Selfie-Posting Behaviour and Motivations

*H6: There is a positive and significant relationship between Narcissism and Selfie-Posting Behaviour and Motivations*

For the last hypothesis, Table 15 shows an F-value of 3.194 (p-value is <0.05) for the relationship between Narcissism and Selfie-Posting Behaviour and Motivations. It can be assumed that there is a positive and significant relationship between Narcissism and Selfie-Posting Behaviour and Motivations, hence, H6 is also accepted.

Table 15: Analysis of Variance – from NARCISSISM to SELFIE-POSTING BEHAVIOUR AND MOTIVATION

	Sum of Squares	df	Mean Square	F	Sig (p-value)
Between Groups	1051.537	24	43.814	3.194	.000
Within Groups	3525.314	257	13.717		
Total	4576.851	281			

### 6.9 Multiple Linear Regression on Hypotheses

The followings are the Multiple Linear Regression analysis on the six hypotheses or variables.

#### 6.9.1 From Motive and Pre-Occupation to Selection

From Table 16, 52.8% of selfie Selection task was influenced by both Motive and Pre-Occupation, while the other 47.2% of Selection was influenced by other factors outside of this research.

Table 16: Multiple Linear Regression – from MOTIVE and PRE-OCCUPATION to SELECTION

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.727 <sup>a</sup>	.528	.525	4.27248

a. Predictors: (Constant), IV2 PRO, IV1MOT

#### 6.9.2 From Selection to Editing

Based on Table 17, only 7.7% of Selection contributed towards selfie Editing task. It means that

the other 92.3% of Editing is determined by non-Selection factors, not measured in this research.

Table 17: Multiple Linear Regression – from SELECTION to EDITING

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.277 <sup>a</sup>	.077	.073	2.25220

a. Predictors: (Constant), IV5SEL

### 6.9.3 From Editing, Self-Esteem and Narcissism to Selfie-Posting Behaviour and Motivations

The finding indicated that Editing, Self-Esteem and Narcissism only contributed 9.1% towards Selfie-Posting Behaviour and Motivations of the Malaysian youth (Table 18). It also means that 90.9% of other factors excluding in this research actually may have influenced the youth's decision to take and post a selfie.

Table 18: Multiple Linear Regression – from EDITING, SELF-ESTEEM and NARCISSISM to SELFIE-POSTING BEHAVIOUR AND MOTIVATIONS

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.302 <sup>a</sup>	.091	.081	3.86805

a. Predictors: (Constant), IV6EDIT, IV3SELF, IV4NAR

### 6.10 Discussion

In a multicultural country like Malaysia, with different beliefs, religions and family backgrounds, its young adults are quite humble and neutral, not to show off or being highly pressured by peers to post selfies. Posting selfies are to capture the memories like visiting famous places, meeting interesting people, photos taken with families and friends at a gathering or event. Many disagreed with posting selfies is to show expensive brands or showing body parts, clothing or posture to look sexy as these acts are influenced by its culture and upbringing.

Many young adults also could not care to edit their photos, as to show their photos naturally or being genuine; perfection is not a priority with these young adults which is different from Salomon (2013). In terms of post-posting behaviour like Self-Esteem, the youth seemed positive about themselves. This is consistent with Baumeister *et al.*, (2003). In addition, these digital natives are quite in control of themselves that they did not post selfies as an act of selfishness, to be at the centre of everyone's attention or are too in love with themselves, thus, contrasting Arpaciet. *al.*'s (2018) profiles.

The six variables that have been chosen in this research (four variables belong to the Selfie-Stadium Model or the pre-posting steps) indicated a small influence for the Malaysian young adults to post selfies. Indirectly, it signaled for other reasons for them to post selfies that have not been captured by this research such as business or commercial reasons, online jobs, careers, projects, competitions,

exhibitions, etc. This is because young children in Malaysia are exposed to entrepreneurial and competitive spirits at an early age from family business, school entrepreneurship programmes, sports and competitions and technology in education. It can be said here that the Selfie-Stadium Model might need further validation or extension to be applied in the Malaysian or Asian culture.

Eventhough all the six hypotheses are supported and the steps are relevant as according to de Vaateet *al.*, (2018) but the degree of influence varies individually. For example, only 7.7% of Selection influenced Editing (Table 17) indicating other reasons to edit, or possibly Editing is not the right step after Selection. Furthermore, 9.1% of Editing, Self-Esteem and Narcissism influenced Selfie-Posting Behaviour and Motivations (Table 18) may have signaled for a different combination of factors or variables in order to strongly influenced social media users to post selfies.

## 7. Conclusion and Future Direction

In conclusion, this research adopted and combined Selfie-Stadium Models with two other variables (Self-Esteem and Narcissism) and tested it to the Malaysian young audience. In general, all six hypotheses were supported with various degree of influence. However, this research is cross-sectional with only a small number of respondents that belong to a private university who took part. The researchers encourage more testing of the Selfie-Stadium Model with further validation and revision on its steps to other, larger group of social media users in probably other Asian countries.

## Appendix

Nil.

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