
THE RELATIONSHIP BETWEEN INSTAGRAM USAGE, SOCIAL COMPARISON, AND SELF-ESTEEM AMONG YOUNG ADULTS DURING THE COVID-19 PANDEMIC IN MALAYSIA

Nafisa Mayukh

International Islamic University Malaysia, Malaysia
nafimayukh@gmail.com

Aini Maznina A. Manaf

International Islamic University Malaysia, Malaysia
maznina@iium.edu.my

ABSTRACT

This study investigates the relationship between Instagram usage, social comparison, and self-esteem among young adults during the COVID-19 pandemic. This is given the prevalence of virtual socialization due to remote learning. A survey participated by 200 young adults studying in Malaysian universities was carried out. Results demonstrated active engagement on Instagram. However, the direct relationships between Instagram usage, social comparison, and self-esteem were inconsequential. Hence, no significant differences between those using Instagram frequently and those who did not were found. Yet, the study observed considerably low self-esteem among the respondents and an active tendency to make social comparisons while using Instagram during the social restriction period caused by the pandemic.

Keywords: *COVID-19, Instagram, self-esteem, social comparison, young adults.*

INTRODUCTION

The influence of social media on self-esteem in relation to social comparison has been the subject of many studies over the years (Jan et al., 2017; de Vries & Kühne, 2015). However, the pandemic has brought about new implications by imposing enormous restrictions on social movement and limiting socialisation across the world, leading to greater social media activities (Vall-Roqué et al., 2020). Malaysia, being no exception, went through multiple stages of movement control orders in an effort to slow down the spread of the virus. While a great part of economic and social activities are slowly returning to their usual state, most educational institutions are still advised to operate virtually thus narrowing young adults' usual socialisation prospects (Lim, 2021). This scenario has led most young adults to seek virtual means of companionship on social media platforms like Instagram with fewer interactions offline with the same people they would typically interact with online. According to Pew Research Center (2021), 71% of young adults between the ages of 18 and 29 use Instagram

(Auxier & Anderson, 2021). A similar pattern was observed in Malaysia with the Internet Users Survey 2020 indicating that 88% of Instagram users consist of a population below the age of 39 (Malaysian Communications and Multimedia Commission, 2020).

This phenomenon has raised concerns regarding various mental health issues and psychological distress among young adults who project negative emotional symptoms (Cauberghe et al., 2020; Wan Mohd Yunus et al., 2021). Such concerns include the implication of social media usage on self-esteem, particularly concerning social comparison, a fundamental concern affecting young adults' mental and physical well-being. In the context of Malaysia, the substantial rise in social media usage among university students and young adults during the lockdowns, which led to various psychological impacts, was the subject of many studies (Wan Mohd Yunus et al., 2021; Sundarasan et al., 2020). Instagram in particular has a substantial impact as it effectively integrates features of many of its competing platforms like TikTok and Snapchat. This scenario amplifies the discerning effects of social media usage on young adults, with those in the 18–34 age range being the most significant users worldwide (Tankovska, 2021).

Rosenberg (1965) defines self-esteem as an overall evaluation of an individual of themselves in respecting and considering themselves worthy. Hence, it relates to one's perception of self-worth, self-respect, and self-confidence, be it positive or negative. On the other hand, the concept of social comparison, pioneered by Leon Festinger in 1954, focuses on how self-esteem can be influenced through the process of social comparison. Recent studies have incorporated the concept into social media, where it manifests as a bigger problem given the elusive features. Issues arise when it creates the impression that others are doing better than them and hypothesises it to one having a negative perception of themselves (Ozimek & Bierhoff, 2019).

Instagram has always been promoted as being focused on visual communication with visual-oriented features (Balaban & Spoaller, 2020) that provides people with a platform to express themselves and their ideas and promote themselves and their achievements and the positive events in their daily lives to others. It opens up the avenue for users to make social comparisons by comparing themselves against other users they 'follow', incidentally affecting their sense of self and self-esteem (Vogel et al., 2014).

Even though many studies have been conducted regarding the impact of social media usage on self-esteem and the impact of the pandemic on psychological behaviour among young Malaysian adults separately, little discussion has been held on the cross-section of the two issues. Hence, this study attempts to fill that void by combining the impact on self-esteem with Instagram, as a popular social media and putting them into the context of the pandemic among young adults in Malaysia.

While many studies have been done on social comparison in the realm of social media platforms and their implication on young adults, the pandemic has posed a tremendous change in the context, which is worth investigating. Hence, this study sheds light on young adults' state of mental health, particularly their self-esteem during this challenging time of remote learning. It attempts to guide students who face such problems and educators on what can be done to address the situation. This study is particularly important given young adults' development stage in their lives, where their self-esteem is an important factor shaping their sense of self and future endeavours. Hence, the aim is to identify the relationships between Instagram usage, social comparison, and self-esteem. The specific objectives are first, to

examine the frequency and engagement level of Instagram usage among young adults during the pandemic; second, to determine young adults' inclination towards social comparison while using Instagram during the pandemic; and third, to identify the correlation between Instagram usage, social comparison, and self-esteem of young adults during the pandemic.

LITERATURE REVIEW

Young Adults and Instagram Usage

The defining feature of Instagram as a social media platform is that it takes a visual approach to communication in accommodating personal one-to-one communication. It allows individuals to design their profiles, virtually present themselves and generate their content, and interact with the content of their friends or other online users, thus serving as a medium for exhibition and self-campaigning (Alhabash & Ma, 2017). The popularity of social media platforms like Instagram in fulfilling the communicative demand of millennials (those born between the years 1981 and 1996) and generation Z (those born from 1997 onwards) is evident as it focuses on being image-oriented in serving the typical purposes of communicating, socialising, and building and maintaining relationships with others through the medium of images and videos (Dimock, 2021). This scope for socialisation serves as the largest factor motivating their inclination towards social media use, with peer communication being the prime reason for daily usage (Ahmad et al., 2015). This is as photographs and videos are regarded as being inherently more real than text written about the same thing, despite the unanimous acceptance of digital manipulation (Pittman & Reich, 2016).

Statista (2021) reports that 86% of the Malaysian population are active social media users in 2021 compared to only 62% in 2016, with youth in the age group of 13–34 being the most dominant users across most social media platforms (Müller, 2021). On average, a modern-day young adult is said to spend 2–3 hours a day interacting on social media (Valkenburg et al., 2021). Meanwhile, a survey at the International Islamic University Malaysia (IIUM) reported the majority of respondents used Instagram every single day with visits to the application as frequent as over five times a day and more than 30 minutes spent every time it was opened (Uddin & Wok, 2020). In the context of the pandemic, the increase in time spent away from physical socialisation has led many to rely on social media for emotional support and connecting with others. This involves forms of self-disclosure where personal information is communicated to others through social media; the information is often mundane ranging from how one is preparing their breakfast at home to their struggles with an assignment (Nabity-Grover et al., 2020).

Social Media and Social Comparison

Leon Festinger's social comparison theory defines social comparison as a process where "individuals evaluate their own abilities, opinions, attitudes, feelings, physical features, accomplishments, or any other self-aspects in relation to other individuals and/or groups" (Guyer & Vaughan-Johnston, 2018). It contends that when people encounter others (real, imagined, or in the media) whom they perceive to be better than them on a relevant dimension of attractiveness and/or possessing achieving qualities, their sense of self-worth will be threatened. It conceptualises humans as having an innate drive to appraise themselves against others by making objective comparisons a natural part of the socialisation process. This

objective means of comparison involves identifying with those with similar characteristics such as gender, age, experience or life stages, followed by an evaluation with more subjective prospects.

Social comparison on social media differs in its approach from that in a real-life setting, as the direct socialisation process involves a more subjective approach. The objective nature of social media is designed to put an exclusive spotlight on only the positive aspects of one's life. It accommodates in giving the impression that others are doing better in comparison, as the features ease the way for users to carefully carve and present themselves exclusively in a positive light (Vogel et al., 2015), consequently serving as an optimal space for such comparison to manifest. It also exposes users to a huge pool of comparison targets with similar backgrounds, supplying an overwhelming amount of data for comparison that would less likely have been possible in a real-life social setting (Verfuyn, 2020).

More recent scrutiny on the implication of social comparison on social media suggests that users are more inclined to make upward comparisons, given the features of social media platforms that accommodate users to present themselves ideally (Vogel et al., 2014). Thus, the findings of research examining the influences of the time spent daily on Instagram and the frequency of Instagram usage were on both upward and downward social comparison, involving those who spend time looking at other people's updates or commenting on other people's photos being more likely to experience increased frequency of Instagram usage and increased social comparison of all types (Hwang, 2019). Based on the above, it's hypothesized;

H₁(a): Young adults who use Instagram more frequently are more likely to make more social comparisons than those who do not.

Social media and self-esteem

The influence of social media on self-esteem is based on the notion that intense social media usage has implicit effects on the self-esteem of individuals, primarily young adults who are at a stage of emerging adulthood. As Harter (2012, as cited in Valkenburg et al., 2021) explains, young adults' self-esteem is an important predictor of their healthy peer interaction, psychological well-being, and future success in life, with interaction and feedback from peers affecting self-perception. Self-esteem is defined as an overall evaluation by an individual of themselves in respecting and considering themselves worthy (Rosenberg, 1965). It refers to one's subjective summary about oneself based on the ideal individual one wants to become, how that ideal is achieved, and the missed opportunities (Ozimek & Bierhoff, 2019).

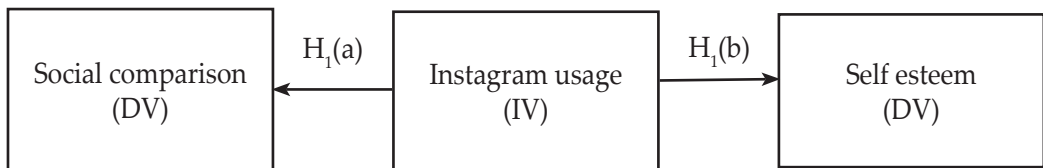
Research by Rahma and Setiasih (2021) found a significant correlation between the intensity of Instagram usage and self-esteem. The correlational study was conducted on young adults aged 18–25 years in the neighbouring nation of Indonesia, which has similar sociocultural demographics and showcased a significant relationship between the two. The study relates the significance of the relationship, with young adults' emotional attachment to Instagram indicating that high intensity of usage leads to a greater emotional connectedness towards the application, which in turn affects their self-esteem. Thus, the higher the intensity of Instagram usage or the higher the emotional attachment to Instagram, the higher the self-esteem of young adults. However, this higher self-esteem has been linked to having more numbers of online friends, particularly among female participants from non-Western, non-individualistic countries (Liu & Baumeister, 2016), whereby high social media usage

leads to improved self-esteem levels are experienced by young adults with a great number of supportive followers. Consequently, it evokes envy, resulting in upward comparisons with social comparison as a moderating factor (Weber et al., 2021). Valkenburg et al. (2017) associated the valence of feedback young adults received from close friends and acquaintances on the platforms with the significant connection between social media usage and social self-esteem. Hence, it is hypothesized:

H₁ (b): Young adults who spend more time on Instagram would experience a higher decrease in self-esteem than those who do not.

CONCEPTUAL FRAMEWORK

Figure 1 illustrates the conceptual framework upon which the study is established. The hypothesis testing was carried out to test the relationship between the independent variable (IV) of Instagram usage measured by frequency and engagement level and the dependent variables (DV) of self-esteem and social comparison.



IV= Independent variable
DV = Dependent variables
H= Hypothesis

Figure 1 *Conceptual Framework of the Study*

METHODOLOGY

Data Collection Procedure

The study employed a quantitative methodology using a structured survey questionnaire distributed to 200 young adults between the ages of 18 and 39 who participated in online/remote learning during the COVID-19 pandemic. Respondents consisted of students from five universities in Peninsular Malaysia: International Islamic University Malaysia (IIUM,) Universiti Kebangsaan Malaysia (UKM), University of Technology Malaysia (UTM), Infrastructure University Kuala Lumpur (IUKL), and INTI International University and Colleges. Respondents were chosen according to the convenience of the researchers from an available pool of students, with the application of the convenience sampling method. This has been due to difficulty in recruiting respondents given the restriction of the pandemic. The questionnaire was disseminated online via a shareable Google Form format. Data collection was conducted for three weeks from October to November 2021.

Instrument and Measures

The survey questionnaire contained four sections; A, B, C, and D. Section A focused on collecting the respondents' general demographic information: age, gender, university, education level, and

their current mode of class. Section B utilised the Iowa-Netherlands Comparison Orientation Measure (INCOM) developed by Gibbons & Buunk (1999), with deduced a mean response typically ranging between 3.0 and 3.5, on the 5-point for the 11 items. Measuring respondents' inclination to compare, the scale ranged from 1 (*strongly agree*) to 5 (*strongly disagree*). Higher scores indicated a greater tendency to socially compare, with a good internal coherence (Cronbach's $\alpha = .75$) and a normal score ranging between 33.0 to 38.5, which was used as the test values for this study. Section C collected data on the frequency and level of engagement in Instagram usage, consisting of questions on the time spent and the number of times the application was visited. All items were measured using the same 5-point Likert scale from 1 (*always*) to 5 (*never*). Lastly, Section D employed the Rosenberg Self-esteem Scale (RSE) to measure the dependent variable of self-esteem. Consisted of 10 items measured using a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), and items 2, 5, 6, 8, and 9 were reverse scored. A composite score of self-esteem was obtained by averaging the scores of these items with a higher score indicating higher self-esteem along with a high internal coherence (Cronbach's $\alpha = .85$) (Bergana, 2020). Three levels of self-esteem: low (10–25), medium (26–29), and high (30–40) categorised the response patterns of individuals.

Reliability

The questionnaire consisted of 3 variables, in the form of 3 different subscales; social comparison and self-esteem. Instagram usage scale consisted of 8 items ($\alpha = .798$), the social comparison scale consisted of 11 items ($\alpha = .751$), and the self-esteem scale consisted of 10 items ($\alpha = .541$) (Table 1). The scales showed a good internal coherence (Cronbach $\alpha > .7$).

Table 1: Cronchbach's Alphas for Questionnaire Scales

Scales	N	Items	Cronbach's α
Instagram usage (engagement level)	200	8	0.79
Social comparisons (INCOM)	200	11	0.75
Self-esteem (RSES)	200	10	0.85

Data Analysis

Descriptive statistics were utilised for the analysis of demographic information to derive the mean score and standard deviation of age group, gender, type of institute, level of study and mode of study, as well as for the analysis of the two variables measure using the Rosenberg Self-esteem Scale (RSES) and Iowa-Netherlands Comparison Orientation Measure (INCOM). In addition to that, Pearson's Correlation Coefficient (r) was applied to test the to measure the strength and direction of a relationship between the two said variables. Lastly, a hypothesis testing one-way analysis of variance (ANOVA) test was used to assess the statistically significant differences between the means, in order to refute or support the hypothesis set.

FINDINGS

Out of 200 respondents, the vast majority (93.5%) were in the age range of 18–25. There are more female (70.5%) than male (29.5%) respondents. The largest group of responses was from IUM (28.0%), followed by INTI (19.0%), UTM (19.5%), IUKL (18.0%), and UKM (15.5%). Most

of the respondents (90%) were undergraduate students at the bachelor’s degree level, and the remaining 10% were pre-university and post-graduate students. While the research was initiated under the presumption that students participating went through some form of the virtual curriculum during the pandemic, a small percentage of the respondents (2.5%) stated attending face-to-face classes. However, the majority attended online classes (89.0%) or mixed-mode or hybrid mode (8.5%) at the time of the study.

Instagram Usage

Based on a descriptive analysis conducted, 29% of the respondent spent 1–3 hours per day and another 26.5% spent 30–40 minutes per day using the application, while only 5% used it for more than 5 hours per day (Table 2). In regards to the number of times the app is visited, more than 50% of the respondents stated that they visited it between 2 and 10 times a day, of which 34.5% visited it 2–5 times a day. Hence, the average time spent ranged between 30 minutes and 3 hours, and the frequency of daily visits was over twice a day at the minimum. While very few spent more than 5 hours using Instagram, for one to spend over 3 hours on a single social media platform and combined with the regular visits to the application, indicates a considerably active use of the application among the respondents.

Table 2: Percentage of Time Spent and Frequency (Times app Opened) per day

Time Spent	%	Frequency (Times app opened)	%
less than 30 minutes	24.5	not every day	18.5
30-60 minutes	26.5	once a day	3
1- 3 hours	29	2-5 times a day	34.5
3-5 hours	15	5-10 times a day	25.5
More than 5 hours	5	More 10 times	18.5

Table 3: Engagement Level in Using Instagram Features

No.	Features	Overall	Others	Own
1.	Instagram Direct Messaging	3.65	3.04	-
2.	Instagram stories	3.19	3.70	3.16
3.	Instagram comments	2.64	2.52	-
4.	Instagram post	2.51	3.65	2.62
5.	Instagram reels	1.83	3.19	1.73
6.	Instagram shop	1.80	1.91	-
7.	Instagram TV (IGTV)	1.79	2.45	1.56
8.	Instagram live	1.47	2.09	1.48
Total		18.90	22.56	10.54
Mean		2.36	2.82	2.11

Table 3 shows the engagement level aggregated across eight Instagram features. The results implied a greater level of engagement in interacting with others by consuming the content made by others ($M = 2.82$) than the overall use of the application ($M = 2.36$) and making their own content ($M = 2.11$).

Social Comparison

Table 4 highlights the descriptive analysis results for the young adults' social comparison inclination. An overall mean score of 36.55 ($SD = 7.57$) was obtained. The highest mean score was obtained by item 1, "I often like to talk with others about mutual opinions and experiences" ($M = 3.93$, $SD = 1.068$) indicating a significant tendency to make comparisons with others. The lowest score was for item 11 ($M = 2.78$, $SD = 1.274$) on the statement "I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing", indicating a low level of social comparison made regarding close social relations consisting of friends and family.

Table 4: Mean and Standard Deviation for Social Comparison

No	Item	M	SD
1.	I often like to talk with others about mutual opinions and experiences.	3.93	1.068
2.	I always like to know what others in a similar situation would do.	3.69	1.172
3.	I often try to find out what others think who face similar problems as I face.	3.69	1.095
4.	I often compare myself with others with respect to what I have accomplished in life.	3.49	1.156
5.	I always pay a lot of attention to how I do things compared with how others do things.	3.48	1.220
6.	If I want to learn more about something, I try to find out what others think about it.	3.19	1.278
7.	If I want to find out how well I have done something, I compare what I have done with how others have done.	3.16	1.232
8.	I am not the type of person who compares often with others.*	3.08	1.250
9.	I never consider my situation in life relative to that of other people.*	3.08	1.034
10.	I often compare how I am doing socially (e.g., social skills, popularity) with other people.	2.98	1.270
11.	I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing.	2.78	1.274
Total		36.55	6.997

Note. *Reverse scored questions. $N = 200$.

Results of the one-sample *t*-test (Table 5) showed the mean social comparison orientation level among the respondents ($M = 3.93$, $SD = 1.068$) was statistically significant at the 5% level

of significance ($t = 7.186, df = 199, p < .001$) from the test value of 33. The mean difference of 3.555, 95% CI [2.58, 4.53] indicated a high inclination to make social comparisons.

Table 5: One-Sample T-Test for Social Comparison Orientation

Scale	t	df	p	Mean difference	95% Confidence Interval of the Difference	
					Lower	Upper
Social Comparison	7.186	199	.000	3.555	2.58	4.53

Note. Test value = 33.

Self-Esteem

As Table 6 outlines, the results showed a total mean of 23.94 ($SD = 4.40$). The total mean was within a low-level range of 10–25, indicating a significantly low level of self-esteem among the respondents. The majority of items with high scores were the ones negatively worded indicating an inclination towards low self-esteem. The highest mean score obtained ($M = 2.98, SD = 0.97$) was for item 1, “All in all, I am inclined to feel that I am a failure”, reflecting the self-perception of being a failure. Correspondingly, positively worded statements scored low means with most participants showcasing disagreement with positive attributions towards themselves. Item 9 scored a low mean of 2.16 ($SD = 1.00$) for the statement “I take a positive attitude towards myself”, and item 10 scored the lowest mean of 2.15 ($SD = 0.94$) for the statement “I feel that I am a person of worth, at least on an equal plane with others.” Therefore, a high overall mean score was recorded, indicating low levels of self-esteem among the respondents.

Table 6: Mean and Standard Deviation of Self-Esteem Items

No.	Item	M	S. D.
1.	All in all, I am inclined to feel that I am a failure.*	2.98	.97
2.	I feel I do not have much to be proud of.*	2.76	1.04
3.	At times I think I am no good at all.*	2.57	1.00
4.	I certainly feel useless at times.	2.51	1.06
5.	I am able to do things as well as most other people	2.23	.94
6.	I wish I could have more respect for myself.*	2.22	1.14
7.	On the whole, I am satisfied with myself.	2.20	.94
8.	I feel that I have a number of good qualities.	2.17	.92
9.	I take a positive attitude toward myself.	2.16	1.00
10.	I feel that I am a person of worth, at least on an equal plane with others.	2.15	.94
Total		23.94	4.40

Note. *Reverse scored questions. $N = 200$.

Correlation between time spent, engagement level, social comparison, and self-esteem

All the variables recorded positive correlation (*r*) scores (Table 7), indicating a positive direction in the relationship between time spent, engagement level, social comparison, and self-esteem. However, the social comparison had weak relationships with both engagement level and self-esteem, with the high *p*-values indicating low statistical significance. The correlation between social comparison and engagement level was .065 (*p* = .361) and between social comparison and self-esteem was .075 (*p* = .291). The *p*-values were greater than the significance level of .05, leading to inconclusive evidence regarding a significant association between the variables thus refuting both hypothesis H1(a). On the other hand, a correlation (*r*) value of .187 was obtained between overall engagement and self-esteem with a low *p*-value of .008, indicating a considerably positive and strong relationship between engagement on Instagram and self-esteem. Thus, hypothesis H1(b) was supported. This finding implies that young adults who use Instagram more frequently are more likely to experience a decrease in self-esteem than those who do not.

Table 7: Correlation Among the Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
Time Spent	2.50	1.16	-			
Overall Engagement Level	18.90	5.184	.322**	-		
Social Comparison Orientation	36.56	6.997	.102	.065	-	
Self-Esteem Level	23.94	4.403	.130	.187**	.075	-

Note. **Correlation is significant at the .01 level (2-tailed). *N* = 200.

Relationship between frequency of Instagram usage and social comparison

The results of the one-way ANOVA suggested that social comparisons did not differ significantly across the five categories of time spent on Instagram, $F(4, 195) = 0.747, p = .561$ (Table 8). Thus, H1(a) was not supported given the high *p*-value. The findings indicated that there was no statistically significant relationship between the time spent on Instagram and the inclination towards social comparison among young adults.

Table 8: One-Way Analyses of Variance (ANOVA) on the Frequency of Instagram Usage and Social Comparison Level

		ANOVA			
	Sum of squares	df	Mean Square	F	Sig.
Between Groups	147.061	4	36.765	0.747	0.561
Within Groups	9594.334	195	49.202		
Total	9741.395	199			

Relationship between frequency of Instagram usage and self-esteem

The one-way ANOVA test results suggested that the respondents' self-esteem scores did not differ significantly across the five categories of time spent on Instagram, $F(4, 195) = 1.118, p = .349$ (Table 9). Thus, H1 (b) was not supported given the relatively high p -value. The findings showed that there was no significant relationship at the 0.05 level between the time spent on Instagram and the self-esteem level of young adults.

Table 9: One-Way Analyses of Variance (ANOVA) on Frequency of Instagram Usage and Self-Esteem

	ANOVA				
	Sum of squares	df	Mean Square	F	Sig.
Between Groups	86.483	4	21.621	1.118	0.349
Within Groups	3771.672	195	19.342		
Total	3858.155	199			

DISCUSSION

The overall results of the study demonstrated that the respondents were active users of Instagram with a high level of engagement during the pandemic, especially in interacting with others. The survey findings revealed that the respondents spent an average time of 30 minutes to 3 hours on Instagram and visited the application at least 2 to 5 times daily. This result coincides with the global average of 2 to 3 hours a day spent by young adults on social media (Valkenburg et al., 2021), as well as with a similar study done in Malaysia which cited more than 30 minutes of Instagram usage among students (Uddin & Wok, 2020). In addition, the engagement level was observed to be higher when it revolved around interaction with others, where there was a higher consumption of content made by others. 'Instagram Stories' was rated to be the most used feature both in relation to consuming others' content and in creating one's own. This popularity can be associated with the defining characteristic of Instagram stories being used for 'digital storytelling' through exhibition and self-campaigning about their daily lives via photos and videos that expire within 24 hours (Sholeh & Rushdi, 2019; Alhabash & Ma, 2017). The prevalent use of this feature could provide an explanation in the context of the pandemic, as it allows users to document their daily lives and live vigorously through others', acting as a space of social exchange while remaining indoors. Further, Instagram Stories also combines features of commenting and direct messaging, which were the two other most frequently used features as rated by the respondents.

Secondly, a significant portion of the respondents showcased a great inclination towards social comparison and a low level of self-esteem. The findings demonstrated an overall high inclination towards social comparison orientation among the respondents. The results coincide with the nature of Instagram which facilitates self-presentation through personal profiling and gives access to information about others' lives. This, in return, explains the nature of social comparison involving individuals making judgments and assessments of similarities, beliefs, and values of their own performance and achievement perceived as superior or inferior in comparison to others (Yang et al., 2018). Thus, the nature of Instagram

as an ideal platform that supplies information about others that is used for the social comparison process supports the basis of Festinger's theory. The process does not stop even when the medium of socialisation shifts to the virtual world, as the optimal space social media platforms provide allows such comparison to manifest even with little face-to-face interaction during the pandemic.

However, in examining the links between the variables to determine whether the frequency and active usage of Instagram affect social comparison and self-esteem, an inconclusive result was obtained with a low significance value acquired from the ANOVA test. As per H1(a), the frequency of Instagram usage was hypothesised to increase the social comparison tendency among young adults during the pandemic. However, the ANOVA test results generated a relatively high *p*-value, indicating little significance in the relationship between those who spent more time on Instagram to make more social comparisons and those who did not, thus refuting the hypothesis. This finding is contrary to the findings of similar research in the past associating frequent Instagram usage with a higher level of social comparison (see de Vries & Kühne, 2015; Jiang & Ngien, 2020). Their findings are based on the premise that the features ease strategic crafting of positive self-presentation which triggers inclination towards social comparison through continuous exposure to the idealised presentation of others' lives through photos, videos, and others (Hwang, 2019). A valid explanation for the contradictory results could be related to the number and types of accounts they follow, which was not considered in this study. The amount and types of accounts followed by users have negative effects on one's mental health with close links to other factors such as anxiety, body image disturbance, societal beauty standards, and the fear of missing out (Faelens et al., 2021). Adjectently the nature of accounts followed is positively associated with social comparison, whereby respondents who follow more accounts are exposed to more upward comparison or appearance comparison content.

Next, for hypothesis H1 (b), the ANOVA test results between the time spent on Instagram and self-esteem level yielded a similarly high *p*-value (.349), indicating no significant relationship between frequent Instagram usage and self-esteem. Despite a considerable low mean score for self-esteem, there were no substantial differences in self-esteem between those who spent less than 30 minutes and those who spent over 3 hours on the platform. Hence, the hypothesis that young adults who spend more time on Instagram would experience a higher decrease in self-esteem than those who do not was refuted. This finding contradicts the past studies by Harter (2012) and Rahma and Setiasih (2021), which found that social media interactions and feedback from peers affected young adults' self-perception and self-esteem. A plausible explanation for these findings could be related to the number of online friends or followers of the respondents, whereby a greater time spent on Instagram would only significantly impact the self-esteem of young adults who have a great number of followers thus having a greater emotional attachment to Instagram (Liu & Baumeister, 2016). This would likely be the case for young adults with a great number of supportive followers who continuously provide positive feedback which improves their self-esteem or inversely, unsupportive followers who give negative responses leading to lower self-esteem. Subsequently, Valkenburg et al. (2017) associated the amount of feedback young adults receive from close friends and acquaintances with a significant influence on social self-esteem.

CONCLUSION

The study's findings revealed a high frequency and active engagement of Instagram usage among young adults, primarily in regard to interactions with others, given the social restriction caused by the COVID-19 pandemic. However, the direct relationships between the time spent on Instagram, social comparison, and self-esteem were found to be inconsequential. The results revealed very little significant differences in social comparison and self-esteem levels between those who used Instagram frequently and those who did not. Nevertheless, the study observed considerably low self-esteem in the young adult respondents along with an active tendency to make social comparisons on Instagram during the social restriction period caused by the pandemic.

Regardless of a lack of direct relationship found between Instagram usage, social comparison, and self-esteem, based on the findings on social comparison orientation and self-esteem, it is imperative for universities and future researchers in the field to initiate a deeper assessment of young adults' development of self against the changing landscape caused by COVID-19. The results highlight the need for a possible re-evaluation in respect of the new social structure caused by the pandemic by considering external factors such as the living conditions of the subjects as they participate in their curriculum remotely. Furthermore, the set of data provides a glimpse into the state of mental health of university students in the midst of remote learning, which has yet to fully return to normal. University-going young adults who are in a transitional time of their lives are stripped of their expected university social life which is meant to nurture their sense of self and develop their social skills to face the real world. The significantly high level of social comparison and low self-esteem observed indicated instability among the respondents, signifying the necessity for mental health support. This finding should prompt universities to pay more attention to their students' welfare and mental health, as social comparison often involves comparison in regard to academic performance and self-esteem, which is bound to affect their performance as students.

The study faced several limitations which might have influenced the results obtained. Firstly, the sample size was relatively small due to the difficulty to recruit willing respondents to answer the survey. Subsequently, a non-probability method of convenience sampling had to be used, possibly contributing to sample bias which might distort the results. Future studies on the topic may use a larger sample size and a more reliable sampling method such as random probability to reduce bias in the assessment of the topic. Alternative research employing a qualitative method would also allow a deeper understanding of the social comparison tendency in respondents which quantitative research may not be able to explain. Despite the high reliability of the scale, the researchers recognize that admitting to making social comparisons is considered widely undesirable, and hence, following up with an open-ended interview to probe responses would provide more detailed information. Lastly, considering respondents' numbers of followers as an external variable for the social comparison process could yield different results.

REFERENCES

- Ahmad, J. H., Ismail, N., & Nasir, N. N. A. (2015). Investigating Malaysian youth's social media usage, competencies and practice with regard to crime prevention: an application of the social media literacy model. In *International Conference on Media, Communication and Culture* (Vol. 18), Unniversiti Malaysia Sarawak, Sarawak/.

- Alhabash, S., & Ma, M. (2017). A tale of four platforms: Motivations and uses of Facebook, Twitter, Instagram, and Snapchat among college students? *Social Media + Society*, 3(1), <https://doi.org/10.1177/2056305117691544>
- Auxier, B., & Anderson, M. (2021). Social media use in 2021. *Pew Research Center: Internet, Science & Tech*. Retrieved November 28, 2021, from <https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/>.
- Balaban, D. C., & Spoaller, D. F. (2020). How social comparison on Instagram affects well-being. perspectives from a study conducted during the lockdown. *Studia Universitatis Babeş-Bolyai Ephemerides*, 65(2), 5–19. <https://doi.org/10.24193/subbeph.2020.2.01>
- Cauberghe, V., Van Wesenbeeck, I., De Jans, S., Hudders, L., & Ponnet, K. (2020). How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown. *Cyberpsychology, Behavior, and Social Networking*, 24(4), 250-257. <https://doi.org/10.1089/cyber.2020.0478>
- de Vries, D. A., & Kühne, R. (2015). Facebook and self-perception: Individual susceptibility to negative social comparison on Facebook. *Personality and Individual Differences*, 86, 217–221. <https://doi.org/10.1016/j.paid.2015.05.029>
- Faelens, L., Hoorelbeke, K., Cambier, R., van Put, J., Van de Putte, E., De Raedt, R., & Koster, E. H. W. (2021). The relationship between Instagram use and indicators of mental health: A systematic review. *Computers in Human Behavior Reports*, 4, 100121. <https://doi.org/10.1016/j.chbr.2021.100121>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117-140.
- Gibbons, F. X., & Buunk, B. P. (1999). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, 76(1), 129–142. <https://doi.org/10.1037/0022-3514.76.1.129>
- Guyer, Joshua & Vaughan-Johnston, Thomas. (2018). Upward and downward social comparisons: A brief historical overview. *Encyclopedia of Personality and Individual Differences*. London: Springer. 10.1007/978-3-319-28099-8_1912-1.
- Hwang, H. S. (2019). Why social comparison on Instagram matters: Its impact on depression. *KSII Transactions on Internet and Information Systems*, 13(3). <https://doi.org/10.3837/tiis.2019.03.029>
- Jan, M., Soomro, S., & Ahmad, N. (2017). Impact of social media on self-esteem. *European Scientific Journal*, 13(23), 329-341. <https://doi.org/10.19044/esj.2017.v13n23p329>
- Jiang, S., & Ngien, A. (2020). The effects of Instagram use, social comparison, and self-esteem on social anxiety: A survey study in Singapore. *Social Media + Society*, 6(2). <https://doi.org/10.1177/2056305120912488>
- Lim, I. (2021, January 12). MCO 2.0: Universities' back-to-campus dates still March 1 for Malaysian students, those already at campus to remain. *Malay Mail*. <https://www.malaymail.com/news/malaysia/2021/01/12/mco-2.0-universities-back-to-campus-dates-still-march-1-for-malaysian-stude/1939750>.
- Liu, D., & Baumeister, R. F. (2016). Social networking online and personality of self-worth: A meta-analysis. *Journal of Research in Personality*, 64, 79–89. <https://doi.org/10.1016/j.jrp.2016.06.024>
- Müller, J. (2021, April 7). Malaysia: social media penetration 2021. *Statista*. <https://www.statista.com/statistics/883712/malaysia-social-media-penetration/>.

- Nabity-Grover, T., Cheung, C. M. K., & Thatcher, J. B. (2020). Inside out and outside in: How the COVID-19 pandemic affects self-disclosure on social media. *International Journal of Information Management*, 55, 102188. <https://doi.org/10.1016/j.ijinfomgt.2020.102188>
- Ozimek, P., & Bierhoff, H.-W. (2019). All my online-friends are better than me – three studies about ability-based comparative social media use, self-esteem, and depressive tendencies. *Behaviour & Information Technology*, 39(10), 1110–1123. <https://doi.org/10.1080/0144929x.2019.1642385>
- Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior*, 62, 155-167.
- Rahma, L. M., & Setiasih, S. (2021). The impact of social media usage intensity on self-esteem: Survey on emerging adulthood of Instagram user. *KONSELI: Jurnal Bimbingan Dan Konseling*, 8(1), 39–46. <https://doi.org/10.24042/kons.v8i1.8313>
- Rosenberg, M. (1965). *Rosenberg self-esteem scale (RSE): Acceptance and commitment therapy. Measures package*, 61. Wollongong: University of Wollongong.
- Sholeh, Achmad & Rusdi, Ahmad. (2019). A New Measurement of Instagram Addiction: Psychometric Properties of The Instagram Addiction Scale (TIAS). Paper presented in Conference of Indonesian Students Association in South Korea (CISAK), (p. 91-97), Korea Maritime University, Busan, South Korea.
- Statista (2021). Active social media users as percentage of the total population in Malaysia from 2016 to 2021. <https://www.statista.com/statistics/883712/malaysia-social-media-penetration>.
- Sundarasan, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G. M., Khoshaim, H. B., Sukayt, A. (2020). Psychological impact of COVID-19 and lockdown among University Students in Malaysia: Implications and Policy Recommendations. *International Journal of Environmental Research and Public Health*, 17(17), 6206. <https://doi.org/10.3390/ijerph17176206>
- Tankovska, H. (2021, February 10). Instagram: age distribution of global audiences 2021. *Statista*. <https://www.statista.com/statistics/325587/instagram-global-age-group/>.
- Uddin, M. S., & Wok, S. (2020). The relationship between the Instagram usage and self-esteem among IIUM students. *IIUM Journal of Human Sciences*, 2. <https://journals.iium.edu.my/irkh/index.php/ijohs/article/view/169>.
- Valkenburg, P. M., Koutamanis, M., & Vossen, H. G. (2017). The concurrent and longitudinal relationships between adolescents' use of social network sites and their social self-esteem. *Computers in Human Behavior*, 76, 35-41.
- Valkenburg, P., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2021). Social Media use and adolescents' self-esteem: Heading for a person-specific media effects paradigm. *Journal of Communication*, 71(1), 56–78. <https://doi.org/10.1093/joc/jqaa039>
- Vall-Roqué, H., Andrés, A., & Saldaña, C. (2020). The impact of COVID-19 lockdown on social network sites use, body image disturbances and self-esteem among adolescents and young women. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 110. <https://doi.org/10.21203/rs.3.rs-71386/v1>
- Vogel, E. A., Rose, J. P., Okdie, B. M., Eckles, K., & Franz, B. (2015). Who compares and despairs? The effect of social comparison orientation on social media use and its outcomes. *Personality and Individual Differences*, 86, 249–256. <https://doi.org/10.1016/j.paid.2015.06.026>

- Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, 3(4), 206–222. <https://doi.org/10.1037/ppm0000047>
- Wan Mohd Yunus, W. M., Badri, S. K., Panatik, S. A., & Mukhtar, F. (2021). The unprecedented movement control order (lockdown) and factors associated with the negative emotional symptoms, happiness, and work-life balance of Malaysian University Students during the Coronavirus Disease (COVID-19) pandemic. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.566221>
- Communications and Multimedia Commission. (2020). Internet users survey 2020. <https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/IUS-2020-Report.pdf>
- Weber, S., Messingschlager, T., & Stein, J.-P. (2021). This is an insta-vention! Exploring cognitive countermeasures to reduce negative consequences of social comparisons on Instagram. *Media Psychology*, 1–30. <https://doi.org/10.1080/15213269.2021.1968440>
- Yang, C.-chen, Holden, S. M., & Carter, M. D. (2018). Social media social comparison of ability (but not opinion) predicts lower identity clarity: Identity processing style as a mediator. *Journal of Youth and Adolescence*, 47(10), 2114–2128. <https://doi.org/10.1007/s10964-017-0801-6>
- Yang, C.-chen, Holden, S. M., Carter, M. D. K., & Webb, J. J. (2018). Social media social comparison and identity distress at the college transition: A dual-path model. *Journal of Adolescence*, 69, 92–102. <https://doi.org/10.1016/j.adolescence.2018.09.007>