

Effects of Social Media Contents on the Perception of Body Image

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Social media is a powerful channel to impact the perception of young generations throughout the world. Many studies revealed the link of body satisfaction, body image, self-esteem, several eating disorders and patterns influenced by social media among female youth. This study aims to investigate the relationship of social media content with the perception of body image among young Saudi females (N=203). Saudi females of 18-24 years of age were included as participants. A demographic information form, Arabic scale of Body Image Measurement (BIM), images from Instagram was utilised to measure the impact of social media on body image. The research was conducted as using pre-post design. Most of the participants were having a normal range of BMI (56%), were using social media every day (96%), and duration was 5 hours (44%). Instagram was found second most frequently used media (34%). Paired t-test and simple regression analysis was conducted to measure the difference and predictive association of Instagram images and pre-post perception of body image. The results showed statistical difference in score of pre and post trials of body image measure ($t = 9.779$, $df = 202$, $n = 203$, $p < .05$, 95% CI for mean difference 2.454 to 2.454, $r = .90$). The result of pre-test administration ($r = .231$, $p < .002$) and post-test were ($r = .164$, $p < .02$) found to be significantly correlated with Instagram usage. Regression analysis revealed the predictive association of usage of Instagram and perception of body image (pre-administration ($F(1,183) = 10.353$, $p < .01$) and post-administration ($F(1,183) = 5.070$, $p < .05$). However, it could be concluded that usage of social media is not creating detorsion of body image perception among Saudi female (pre-trial $M = 13.70$, post-trial $M = 10.63 > 18.36$). The implication of this study could help to understand the issue in new scenario and to develop effective policies of health promotion and media awareness for the Saudi female youth.

Key words: *Body image, social media, Instagram, body perception, Saudi female.*

Introduction

Throughout the last two decades, technology usage has increased at a fast pace. There might be many reasons for this widespread usage of the internet including accessibility, cheaper technology, fast processing devices, as well as usage of latest devices and fashion trends. In addition, social media sites have turned into the most popular sources of communication particularly in the young generation (Murray, Maras & Goldfield, 2016; Madge *et al.*, 2009). We are living in a technological era, likewise many other technological advancements, internet access is increasing rapidly worldwide. The usage of social media websites such as Instagram, Facebook and Twitter are not only becoming popular but influential too, particularly among the young ones. According to statistical officials of Kingdom of Saudi Arabia, the total population of Saudi Arabia reached 31,742,308 by 2016 (GAS, 2016) and about 50% are females (male: female is 104:100). Among which the highest contribution in population is of young ones who are less than 30 years old (GAS, 2016). According to two independent stats count websites, 20.8 million had access to the internet, 75% had own active accounts on social media. The estimated number of Instagram users ranked 3rd with a number of 18 million, measuring around 54% of all media users in Saudi Arabia (GMI, 2018; Statista, 2018).

The human being is known as a social animal; however, according to social comparison theory, individuals have an inborn drive to evaluate themselves including others to know where they stand (Festinger, 1954). The widespread and growing usage of social media and its contribution to daily individual/public behaviour of users has gained the attention of social scientists (Bair, Kelly, Serdar & Mazzeo, 2012). In last few years some research has been conducted, particularly in western countries to understand the relationship between social media use and body image. Predominantly, the beneficial and problematic association of internet-based media on the behaviour of human beings is under discussion (Holland & Tiggemann, 2016). Hence, within social and psychological study domains, the research about being exposed to social media is gaining momentum.

Body image (BI) can be described as the individual's feelings, thoughts and perceptions about their body (Grogan, 2006; David and M. 2017). Various studies in relation to BI and psychological problems have discussed the predictive association of depression (Paxton, Neumark-Sztainer, Hannan & Eisenberg, 2006), self-esteem (Clay, Vignoles & Dittmar, 2005), and unhealthy eating conditions (Chaudhari, Tewari, Vanka, Kumar, Saldanha, 2017) among adolescents and adults. Several factors can affect BI like getting a negative evaluation



from others about an individual's body or comparing the own BI with others, media, and people on social media (Hogue & Mills, 2019; Vogel, Ross, Roberts & Eckles, 2014).

Social media are communication tools that enable users to construct a profile, connect with other people and social networks online. Some of the benefits of having an account on social media includes communication with others, education resources, promotion and it also creates awareness and devises the way people live. In addition, social media is becoming almost like an essential tool that everyone must have and depend on it to complete their works. People can share advertisements for their businesses and know about the whole world and its news and updates. Social media also can influence the user's BI, which depends on the user itself and the content that they are watching, whether is it going to be negative or positive (Vogel, Ross, Roberts & Eckles, 2014). Things may be presented on Instagram such as, fitness girls, models along with plus size body pictures that could be linked with body dissatisfaction (Wagner, Aguirre & Sumner, 2016). A study on females discussed where they were shown a picture of fit models and found that participants had high levels of body-related anxiety (Boepple et al., 2016).

The contents of social media can lead to body disappointment which happens when a person views his/her body as a less attractive when compared with an ideal body (Wagner, Aguirre & Sumner, 2016). This dissatisfaction does not only lead to mood swings but also cause sometimes serious changes in behaviour too, such as eating habits or anorexia nervosa. Fardouly and colleagues (2015), conducted an experimental study and found influence on mood and BI among females after the exposure of social media. Social media shows 'perfect' bodies of women who are skinny, slim, and attractive. It was found that when women were exposed to ultra-thin or average-size models it led to a decrease in their body satisfaction (Halliwell, Dittmar, & Howe, 2005). Despite the fact, it is nearly impossible to attain such an ideal figure; many aspire the ideal body which results in body disappointment (Bagautdinova, 2018). Myers and Crowther (2009) concluded that teenage girls experienced greater degrees of body dissatisfaction as compared to their male participants. Similar kind of finding was reported for adolescent girls in Egypt, having 37.4% dissatisfaction with their BI (Mahfouz, Fahmy, Nassar & Wahba, 2018).

The progress in social media application development is speedy. These days after Twitter, the use of Instagram is in acceleration. Notably, female users are spending more time on Instagram as compared to any other social website (Turner & Lefevre, 2017). Hence, the widespread use of Instagram, especially by the young girls, convinced more specific research about its association with body satisfaction of adolescent/young adults with social media. According to Khalaf and colleagues (2015), almost all the researchers conducted to date targeted western civilization, and hence the Arabian society has not been explored adequately. Alhussaini *et al.* (2018) believed that socio-culture factors influence women

about their BI. In the said study, 83.9% female students agreed that physical appearance is the most important characters about image perception while 68.6% participants responded to positive BI.

When we look at different kinds of content on social media, we can assume different reactions of people watching that content (Martin, 2010). This study looks at three different types of content, including celebrities, fit girls and average-size models. These different categories were chosen because of the different body shapes that they are representing. Keeping in view the above-mentioned studies regarding the higher prevalence of media usage (GMI, 2018; Statista, 2018) and a huge gap in the exploration of Saudi female's level of satisfaction with respect to their BI (Khalaf *et al*, 2015) and the prevailing use of Instagram shows the need for the current study. The study will explore the answer of the research question, which is, "What are the effects of social media contents of Instagram on the perception of BI of young Saudi females?" After going through the literature review the following hypothesis was formulated:

Hypothesis #1: There will be a significant difference between pre and post administration of perceived body image due to social media images.

Hypothesis # 2: Excessive use of social media will predict body dissatisfaction among Saudi female.

Methodology

Research Design

This study was conducted to understand the effects of Instagram content and their effect on BI perceptions in Saudi females. A pre-post design was used specifically between-subject design by utilising three pictures and exposes them to different stimulus pictures (Charness, Gneezy, Kuhn, 2012). The research took place in Riyadh, Saudi Arabia and most of the participants were expected to be from Riyadh because it is considered as a Metropolitan city.

Participants

The participants were selected through convenient sampling. Sample size was calculated by using OpenEpi sample size calculator (Sample size $n = [DEFF * Np(1-p)] / [(d^2 / Z^2_{1-\alpha/2} * (N-1) + p*(1-p)]$). For the outcome factor, 75% of social media usage prevalence was considered (GMI, 2018; Statista, 2018). Thus, 289 female participants were the sample size of study. Due to screening procedure, only 203 survey forms were selected that matched the inclusion/exclusion criteria. The actual return rate of the survey was 70% that is considered very good response (Babbie, 1990).

Inclusion/ exclusion criteria:

The participants were the Saudi National female only. The age range was 18 to 24 years old. Any female with a psychological disorder, family history of suffering from a medical problem related to weight were excluded in order to avoid the comorbidity effect. Those participants who were having any specific dietary plan were excluded too.

Material

The standardized and valid scale was applied to measure the variable of BI. Furthermore, a brief socio-demographic information questionnaire was developed for screening purpose. Stimulus pictures were selected from Instagram for pre-post administration.

Body Image Measurement (BIM)

Body image (BIM) questioner was used for measuring body image. It measures how individuals perceive themselves in the mirror, through their self-esteem, emotions, and thoughts. There is an Arabic version for this questioner, which is standardised from the Faculty of Psychology, Tanta University, Egypt. It contains 26 statements about feelings and thoughts of BI. The participants indicate how much they agree by choosing the response from a 3-point Likert scale (3=agree, 2=not agree, and 1=not sure). A higher score shows more distortion in the perception of BI. The standard score for the female sample (N = 100) using mean 18.36 and standard deviation = 4.20 was reported (Choucair, 2012). Test-retest reliability of the questioners on sample of male and female yield Alpha coefficient of 0.80 (Choucair, 2012). In current study reliability of the scale was found ($\alpha=0.742$) falling in the accepted range and the inter-item correlation was ranging from .398-.775 for 26 items.

Stimulus Pictures and categorization

Stimulus pictures from Instagram were an image of underweight, overweight, and average size. These pictures were chosen by Instagram and were shown to the participant and asked to select as the overweight, average, underweight body. For the selection of pictures, a group of five experts were contacted to ensure not to be biased in selection. A quick rating category was attached to the pictures. Participants were asked to give category of the overweight, average, underweight body to the three of the pictures.

Sociodemographic sheet

A brief sociodemographic sheet was administered for age, education, marital status, employment, history of any psychological or physical disease, district of living and

information for social media usage. Although education, marital status, employment was not specified in research criteria, it could provide rich data for participants.

Data Collection and Ethical Considerations

Permission from IRB of Princess Nourah University was being sought (IRB Log # 18-0242). The participants were given a consent form to ensure confidentiality and voluntary participation. Assurance was provided to the participants for privacy of the data and to keep it anonymous. Therefore, all the survey forms were coded. Data was collected by individual administration of the survey. In the beginning, a brief explanation and the purpose of the survey was explained. The first step in the survey was asking about demographic details for the screening purpose, for the people who are choosing under eighteen years or above twenty-four years were excluded. Secondly, social media was questioned, for instance, frequency and number of hours they use the social media per day. The third part of the questionnaire was about BI with selected pictures from Instagram were shown to the participant and asked to select as the overweight, average, underweight body. Survey of BI was then re-administered. After they finished the entire test then the purpose of the test was explained clearly and with details during debriefing session.

Statistical Analysis

A survey was used because it allows for a diversity of methods to assign to a large number of participants, data collection and use of different kind of instruments together (Ponto, 2015). SPSS V.24 software was used to analyse the data, specifically mean, standard deviation, frequency, paired sample t-test, Pearson correlation and regression analysis for measuring the difference, relationship and association to measure significance level. Normality test was conducted before conducting inferential statistics. Significant levels of .05 were used to analyse the data.

Results

The sample demographics and clinical characteristics with a sample size of (n=203) were analysed. It is worthwhile to mention here that the sample of 289 was contacted for the survey. Only 203 who filled the survey form were found matching the research criteria and not having any missing items. Discarded data was having some issues related to exclusion criteria, for instance, age was below or above the criteria of 18-24 years, non-Saudi, having physical, psychiatric and dietary plans. All the descriptive statistics were done include, frequencies, percentage, the mean and standard deviation for the demographic variables of marital status, age, and education, employment and district of living. Moreover, descriptive statistics were conducted to measure the information for social media usage.

Sociodemographic information and Social media usage

Table 1 above shows the demographic details; that marital status of the majority were single females approximately 80%, most of them were from the central area with a percentage of 84.7% and the lower percentage were from the south area (1%), university level of education (78.8%) whereas middle school (2%). For the profession majority were students (80%) with a BMI of Normal-weight (55.7%) and super obese (.5%).

Table 2 above shows the majority of the participants in this study were found having an average of five hours per day (41.4%) of the usage of social media. Most of the participants (96%) reported that they use social media every day.

Table 3 shows the usage of various social media, Instagram showed the most frequent (34%), and (5.9%) never used. Most frequent of WhatsApp was (36.9%) and (2.5%) of never use. Facebook most frequent and never use was (9.4%). Snapchat got (42.9%) for most frequent and (2.0%) for never. Twitter most frequent was (32%) and never used was (4.4%). For others, most frequent was (22.7%) and never was (13.8%).

Difference of BI with pre-post administration of Stimulus pictures

Paired sample t-test, Person coefficient of Correlation and Regression analysis were conducted to test the hypotheses statistically. Inferential statistics for probability sample was applied after checking the normal distribution of scores through the Shapiro-Wilk Test. To measure the hypothesis of the difference of perception with pre-post administration of BI score paired t-test was conducted.

Outcomes of the paired-samples t-test displayed that mean perceived BI differs before exposure of Instagram ($M = 13.70$, $SD = 10.49$) and after exposure ($M = 10.63$, $SD = 10.53$) at the .05 level of importance ($t = 9.779$, $df = 202$, $n = 203$, $p < .05$, 95% CI for mean difference 2.454 to 2.454, $r = .90$). On average perceived BI score was about 3.07 points lower after exposure of Instagram pictures. Mean scores during pre-post administration are lower than the standardised score (18.36) given by scale manual.

Association of Instagram usage and pre-post perceived Body image

To measure the second hypothesis; the relationship of perceived BI and social media images Pearson's coefficient of Correlation was applied. Regression analysis was conducted to measure the predictive relationship between Instagram and the perception of BI.

Table 6 shows the regression analysis of the usage of Instagram and pre-post administration of BI scale. The table shows the relationship of usage of Instagram to pre-administration ($r=.231$, $p < .002$) and post-administration ($r=.164$, $p < .02$) BI, showed that there was a significant effect according to P-values $< .05$. The coefficient of determination ($R^2=.054$ and $.027$) implies that the variation in the general perception of BI among young Saudi female is explained 5% and 2% of the independent variable (usage of Instagram). Thus, the usage of Instagram among the young Saudi female is significantly predicting BI in pre-administration ($F(1,183) = 10.353$, $p < .01$) and post-administration ($F(1,183) = 5.070$, $p < .05$).

Discussion

In the most recent years, some research has been led, especially in western countries, to comprehend the connection between using social media and BI. One of the theories called a sociocultural model of body disappointment, and eating pattern features the powerful contribution of social media and BI of woman (Fitzsimmons-Craft *et al.*, 2014). Furthermore, a connection between social media and BI have been reported by various studies. A meta-analysis of BI research reported that female girls showed greater impairment with BI as compared to boys (Myers & Crowther, 2009). For women, a comparable outcome study was found by Wagner, Aguirre and Sumner, (2016). They discovered that females felt more terrible about their BI when they were indicated perfect pictures than other stimuli like models of normal or larger size, or celebrities. These discoveries made it discover the effect of social medial on BI among Saudi female youth.

El Bcheraoui *et al.*, (2014) did a national survey on females and males at the age of 15 and above where they found a high prevalence of obesity among females (33.5%) than males. Whereas, in the current study majority of the female were having normal weight range (56%). Only 11% of female youth reported suffering from the problems of obesity. However, with the variation in age range, result could be different.

Furthermore, results showed that most of the participants (41.4%) are using Instagram for five hours and (95.6%) every day. This result has been supported by the previous study conducted with the university student sample in Saudi Arabia (Alosaimi *et al.*, 2016). Alosaimi *et al.* (2016) stated that Saudi university students are at risk of getting addicted to their mobile phones. However, results showed that Instagram was not the most used application of various social media as expected. However, the result in current study found that Instagram was rank at the third of social media. The participants reported that the most frequent usage of Instagram was (34%).

Since social media is considered fashionable for communication to new generation (Wong, Merchant, Moreno, 2014) and it is having a massive effect on diverse aspect of human life,

also seen as the reason behind the massive spread of the BI and level of appreciation of beauty in society (Hogues & Mills, 2019). The hypothesis that stimulus pictures will affect the perceived BI have been proved statistically. Furthermore, the results revealed a statistically significant difference in mean score of perceived BI before and after Instagram exposure. Perceived BI scores appeared to drop an average of about 3.07 points following the exposure of Instagram. However, the mean score during both trails remains less than the standardized score. It further can be concluded that Instagram is not distorting the perception of BI among young Saudi female. As the higher score on perceived BI leads toward the distortion in perception. The difference in average score might be the repetition or practice effect. One of the previous studies is evidence of high scores of BI among college students (Goswami, Sachdeva & Sachdeva, 2012). Findings are indicating toward further exploration of sociocultural and personality factors that might be consistent with initial results of the study.

Lastly, the results shown in Table 4.6 explain the relationship of Instagram usage with pre-post administration. The pre-administration was found ($r=.231$, $p <.002$) compared with an alpha-value $<.05$, shows that there is a significant effect which rejects the null hypothesis that state “that social media will have an effect on perception of BI”, and that means young Saudi females don’t have any problem with their perceived BI relating to social media.

With regards to pictures of celebrities and effects on mood, it was found that mood was affected prominently (Brown & Tiggemann, 2016). Some other findings discussed the presence of anxiety related to the body after watching images of models (Boepple et al., 2016). Considering the provided evidence and literature the second hypothesis that there will be predictive association of Instagram usage and perceived BI was found statistically proven. The results extracted from this research can also support the hypothesis statement.

There are a few limitations of the study that could be addressed in future. The sample size was limited that restricts generalizing the data. Furthermore, all the participants belong to Riyadh city only. In future studies, male participants could be included. Various sociocultural and personality factors, for instance, the discrepancy of real and ideal self, self-efficacy, locus of control, and perception of society toward BI could help to explore more dimensions of BI.

Conclusion

Impact of social media is one of the broadly examined subjects in connection to the effect on the individuals' life. Literature uncovered the connection between body satisfaction and self-perception among youth. This research discovered the relationship between self-perception and the impacts of social media among young Saudi female. This research examined the

association of social media content and perception of BI among young Saudi female. Results revealed that Instagram images were found significantly effecting perception of BI. However, the distortion of perceived BI is lesser than the average standard score that further provides positive indication of health-promoting practices among young Saudi females.

Table 1: Sociodemographic Information for the female Saudi participants (N=203)

Variables	Sub-Variables	<i>f</i>	Percentage	<i>M</i>	<i>SD</i>
Marital Status	Single	162	79.8	1.20	
	Married	41	20.2		
Area	North area	12	5.9	2.96	
	West area	3	1.5		
	Centre area	172	84.7		
	East area	14	6.9		
	South	2	1.0		
Educational Level	Middle school	4	2.0	2.77	
	High school	39	19.2		
	University	160	78.8		
Profession	Employee	40	19.7	1.80	
	Student	163	80.3		
BMI	Underweight = <18.5	19	9.4	24.134	5.7087
	Normal weight = 18.5–24.9	113	55.7		
	Overweight = 25–29.9	49	24.1		
	Obesity = 30-39.9 Obese	19	9.4		
	Morbid Obese=40-50	2	1.0		
	Super Obese=50 or above	1	.5		

Figure 1. Frequency for socialmographic information

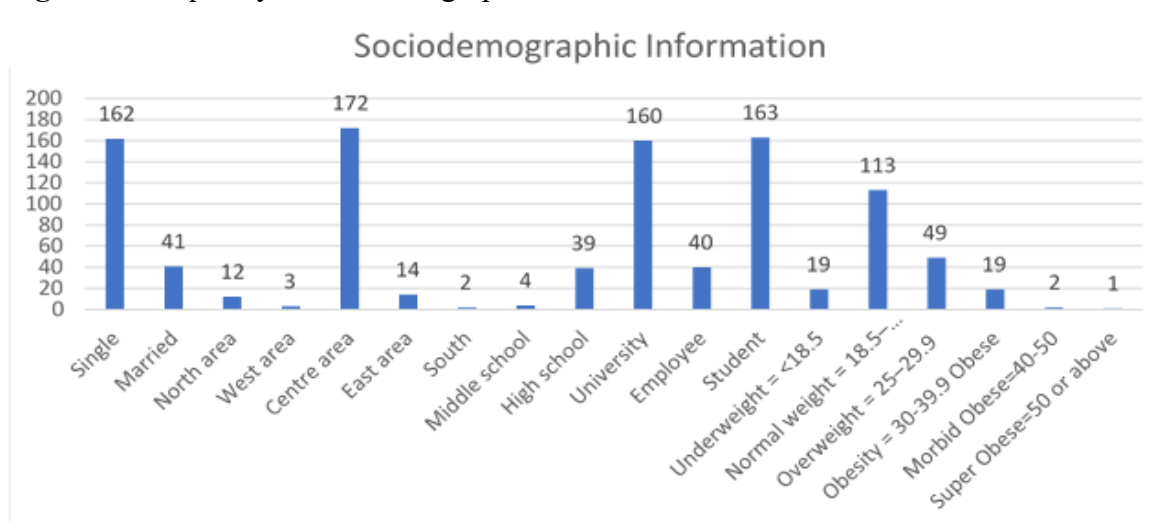


Table 2: Descriptive Statistics for Social media usage for the female Saudi participants (N=203)

Variables	Categories	<i>f</i>	Percentage	<i>M</i>	<i>SD</i>
Average usage for social media per day	Less than one hour	5	2.5	3.69	1.377
	One hour	11	5.4		
	Two hours	23	11.3		
	Three hours	47	23.2		
	Four hours	33	16.3		
	Five hours	84	41.4		
Average usage for social media per week	Once a week	1	.5	3.94	.331
	Twice a week	2	1.0		
	Three times a week	6	3.0		
	Every day	194	95.6		

Figure 2. percentage of average usage of social media per day

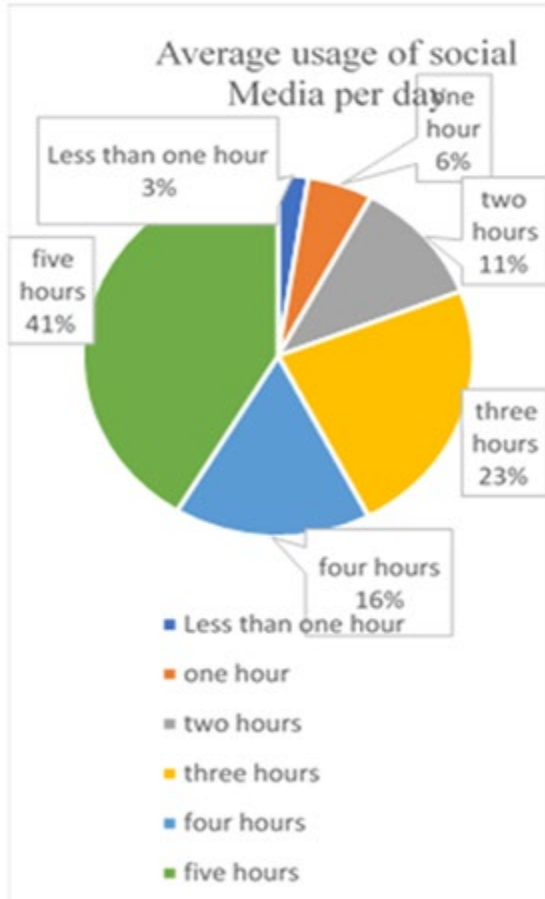


Figure 3. percentage of average usage of social media per week

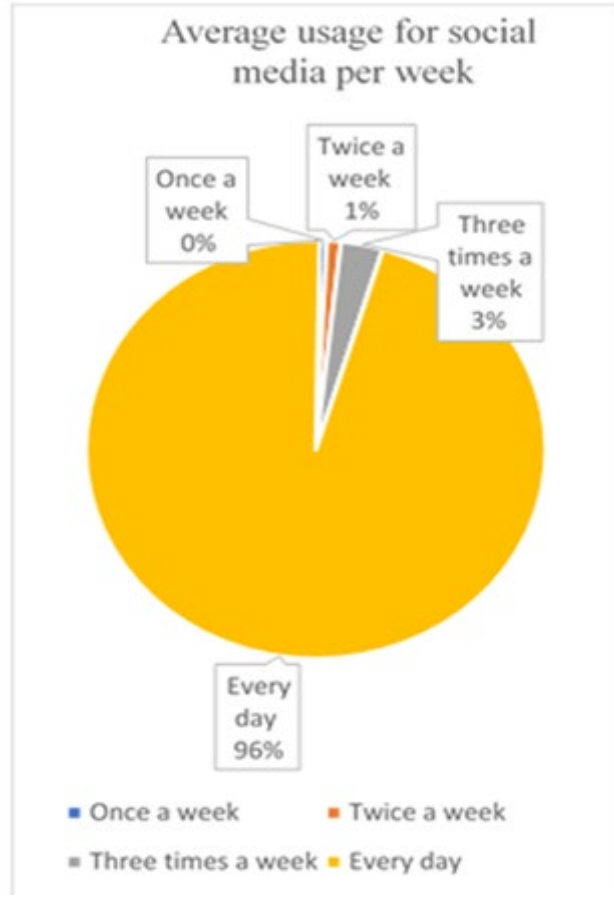


Table 3: Descriptive statistics for Usage of various social media

Social Media Categories	Instagram		WhatsApp		Facebook		Snapchat		Twitter		Others	
	f	%	f	%	f	%	f	%	f	%	f	%
Most frequent	69	34.0	75	36.9	19	9.4	87	42.9	65	32.0	46	22.7
Too frequent	32	15.8	43	21.2	3	1.5	67	33.0	33	16.3	37	18.2
Frequent	41	20.2	47	23.2	30	14.8	31	15.3	44	21.7	6	3.0
Less frequent	41	20.2	25	12.3	39	19.2	13	6.4	36	17.7	13	6.4
Least frequent	8	3.9	8	3.9	112	55.2	1	.5	16	7.9	25	12.3
Never	12	5.9	5	2.5	19	9.4	4	2.0	9	4.4	28	13.8
<i>M</i>	2.62		2.33		5.00		1.95		2.67		3.03	
<i>SD</i>	1.509		1.321		1.506		1.095		1.495		2.372	

Figure 5. Usage of various social media

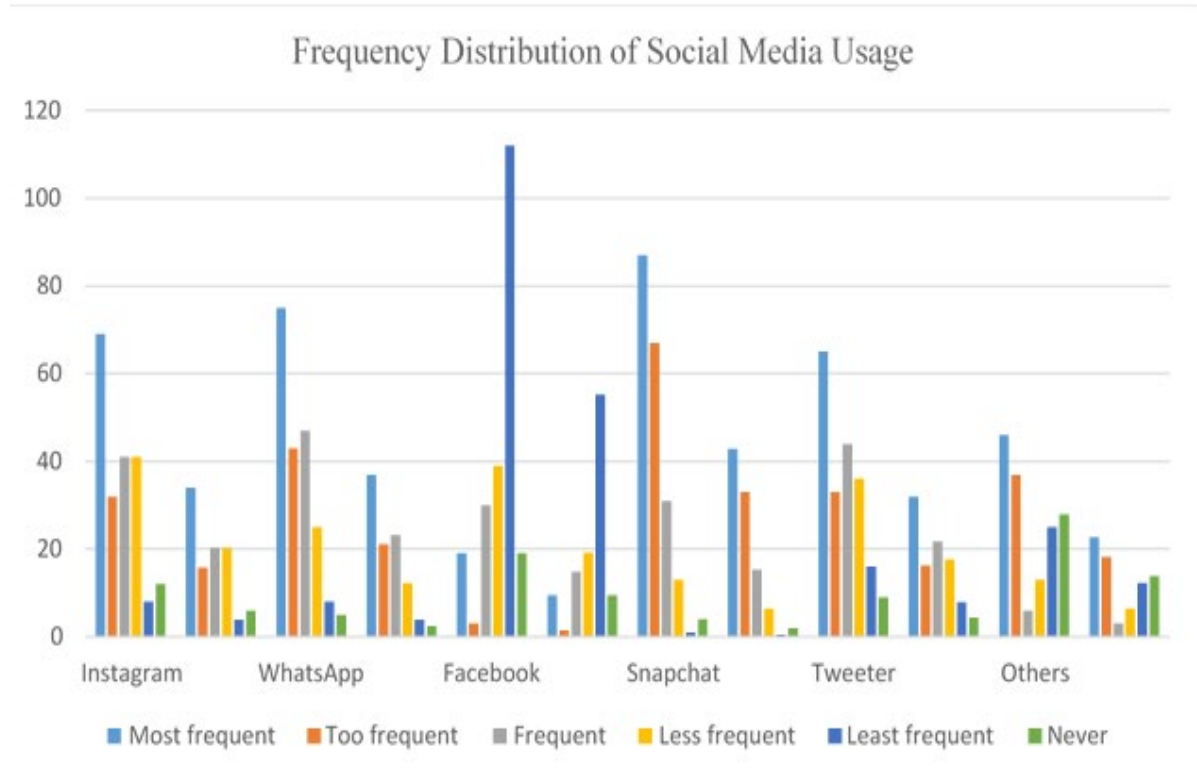


Table 4: Shapiro-Wilk Normality Test

	Statistic	df	Sig.
Body Image	.916	203	.314

Lilliefors Significance correction

Table 5: Descriptive Statistics and paired sample t-test for perceived Body Image by Instagram Usage

Outcome	Pre-exposure score		Post-exposure score		n	95% CI for Mean Difference	r	t	df
	M	SD	M	SD					
Perceived Body Image	13.70	10.49	10.63	10.53	203	2.454, 2.454	.90*	9.779*	202

* $p < .05$.

Table 6: Regression analysis of Instagram usage and pre-post perceived Body image

Variables	(1)	(2)	(3)	R ²	F	SE	df	p
usage of Instagram	-							
(2) Pre-administration of BI scale	.231**	-		.054	10.353	10.221	1	.002**
(3) Post-administration of BI scale	.164*	.909**	-	.027	5.070	10.463	1	.026*

**P< 0.01 level, * P<0.05 level

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