




Original Research Article

Assessing the effects of Instagram and WhatsApp use on behavior of population in south west region of Saudi Arabia

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Abstract

Social media not only have been proven to cause unhappiness, but it can also lead to development of mental health issues like stress or depression when used too much or without caution. The present study was aimed to assess the knowledge, attitude and behavior of the individuals regarding consequences of Instagram and WhatsApp usage on mental health. The web link of the online questionnaire was disseminated and data was collected for 15 days (16th to 30th January 2022). A total of 632 participants gave consent and took part in this survey. Majority of the participants (76.3%) don't think that WhatsApp use can violate their privacy but 54.6% users have knowledge regarding its negative effects on health and lifestyle. Interestingly, 57% participant refuses to stop using WhatsApp even after knowing the negative effects. Majority of respondents reported that they didn't get influenced about the "stuff" on Instagram. However, 31.80% participants accepted that their feelings get influenced by the number of "likes" they get, and 44.4% participant stated that Instagram have effect on their mood and 19.3% respondents reported that they feel pressure to fit into a certain image on social media. Even, 21.2% participants accepted that they face mental issues because of Instagram use. A small proportion of Instagram users in Jazan reported that it has negative impact on mental health. Majority of the participants are not willing to stop use of WhatsApp even after knowing the adverse effects. It is advisable for social media users to create a social-media free slot in daily routine if they feel sad, lonely or depressed after using social media apps.

Introduction

Recently Social Media has become one of the most important parts of our life irrespective of gender, age or even social background of the user. The huge number of social media users makes it to be counted as one of the most powerful channels that affects the whole society.

The excessive use of social media is one of the common activities of present generation. Social media are those websites which allows interaction through web 2.0 and 3.0 sites including application like Facebook (now Meta), WhatsApp, Twitter, MySpace, online gaming, virtual worlds like Second Life, Sims, YouTube, Blogs and so on. These websites or web applications are growing

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exponentially. Merriam-Webster (2014) defined social media as, "forms of electronic communication (as web sites for social networking and micro-blogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)" [1]. The virtual platforms of social media (Instagram, Facebook, Twitter, etc.) considerably boosted the virtual environment since past decade by facilitating users to interchange their feelings, ideas, personal information, pictures and videos.

One of the most popular messaging application that connects people worldwide is WhatsApp (Meta Platforms Inc, Menlo Park, California), and is considered as one of the must have App that can be easily found in any smart device. It was created by Brian Cton and Jan Koum and was launched in 2009. WhatsApp is an Application that allows people to communicate through free written messages and even free audio and video calls and it also permits users to spread information to high number of people at once (known as broadcasting).

Thus, social media lays substantial influence on different aspects of present digital life apart from online communication, it affected from marketing, to politics, to education, to health, and to basic human interaction. In many of the above mentioned areas, social media presents clear benefits; however, social media phenomenon is relatively new, number of empirical studies evaluated the overall influence of regular use of social media on the well-being and mental health of its users. In addition, the continuous flow of information through nonstop use of social media can alter sensory perception because constant sensory overload affects learning and memory [2].

Now-a-days, addiction of social media has exceptionally increased, once an individual gets on, it is difficult to refrain from its use. The user perceives "comments and likes" as positive reinforcement and hence it become more difficult to stop it. Some people compare their lives with the immaculate lives of their friends.

In present world, anxiety appears as one of the fundamental mental health problems. People worry a lot about the "likes" and "comments" of their uploaded pictures and videos. In the present era, hardly any person is immune in context of social media. It has also been reported that usage of social networking applications like Facebook and Twitter are less helpful to students in remaining more focused and less stressed. Kaur and Bashir (2015) [3] explored both positive and negative effects of social media on mental health of adolescents. The positive effects include socialization, enhanced communication, learning opportunities and access to health information.

While negative aspects include depression, online harassment, cyber-bulling, fatigue, stress, suppression of emotional nature and decline of intellectual ability.

Instagram is considered to be one of the fastest-growing social media application. As of April 2017, there were approximately 700 million users on Instagram [4]. A significant feature of Instagram is that it allows users to revamp their photographs by applying a range of enhancement filters. This function changed the way people present themselves online, and the representation of flawless beauty may affect viewers' emotional and psychological responses [5]. It is important to know the pros and cons of WhatsApp too, because it doesn't target youth only (as most of social media apps do) but it is literally used by all level of people, even including the one who are not very familiar with technology. Sometimes, it is even considered as an official way of communication.

People are using social media extensively but majority of them are unaware of the side effects especially related to mental health. There are few previous studies from Kingdom of Saudi Arabia (KSA) that have correlated the use of social media and its effect on mental health. However, to the best of our knowledge, nobody assessed specifically the effect of Instagram and WhatsApp use on mental health. Hence, the present study was aimed to assess the knowledge, attitude and behavior of the individuals regarding consequences of Instagram and WhatsApp usage on mental health. The level of their knowledge about negative effects of social media use was also assessed.

Materials and Methods

- Study design: The study was descriptive, cross-sectional study.
- Study location: The study was conducted in Jazan city, Kingdom of Saudi Arabia (KSA).
- Data collection: The data was collected by conducting an online survey using questionnaire as Google form. Convenient sampling method was used. A well-structured questionnaire was developed from extensive literature review. The questions were first designed, and then organized in English and then translated to Arabic language by an independent professional translator. The web link of the online questionnaire was disseminated and the data was collected from 16th January, 2022 to 30th January, 2022.
- Sample size: It was randomized convenient sampling. A total of 632 participants gave consent and took part in the survey.
- Questionnaire validation: The face validity of questionnaire was assessed by piloting it on 10

students to ensure the clarity of information and determine the time needed to fill up the questionnaire. Feedback from pilot study was modified on final draft of questionnaire. Data from pilot study were not included in the study. The content validity of questionnaire was done by providing it to 6 experts.

- f) Inclusion criteria: The male and female residents of Jazan city were included in the study and they have volunteered to participate in the survey. The identity of the participant was kept anonymous during data analysis.
- g) Exclusion criteria: People who refused to participate in the study, don't know Arabic language and those who were from outside of the Jazan city.
- h) Data analysis tool: The data was analyzed by using Microsoft Excel.

Results

Demographic characteristics of participants

Response rate was recorded as 100% as all 632 questionnaires were returned complete. 81.4% participants reported their gender as female and 18.6% were males. Majority (55.7%) of participants belong to age group 21-26 years, followed by almost equal proportion of both 17-21 years (22%) and the participants of more than 27 years (21.7%) of age. Least proportion of participants belong to age group 12-16 years (0.6%).

Usage of WhatsApp and Instagram

A large proportion (83.5%) of participants responded that they were using WhatsApp and Instagram since last 4-8 years, followed by the users from last 1-4 years (14.1%). Moreover, a little proportion of participants claimed that they have started use of these two Apps since last 1-6 months only (2.4%).

Regarding time spent on WhatsApp and Instagram usage, 36.9% of study population spend more than 4 hours per day, 26.5% respondents spend 3-4 hours whereas 25.2% reported that they spend 1-2 hours/day. Moreover, least proportion (11.4%) of users spend nearly about just an hour/day on WhatsApp and Instagram.

However, 45.6% respondents mentioned that they use WhatsApp for carrying out studies related tasks, whereas 41.5% participants admit that they use it to interact with family and friends. Moreover, 6.8% participants use the App for time pass and just 3% of participants use it to entertain themselves and broadcasting jokes. Almost half (51.8%) of the participant strongly agreed that WhatsApp is a "strong communication tool" and 42.6% respondents agreed for considering WhatsApp as "strong communication tool", but 3.8% disagreed regarding such usefulness of the

App and 1.7% participants even strongly disagreed over the concept of 'WhatsApp being strong communication tool'.

Additionally, 41.8% participants agreed and 28.8% strongly agreed that they communicate with people more through WhatsApp rather than meeting them physically; however, 24.2% participants reported that they believe in communicating physically rather than through WhatsApp and about 5.2% were strongly against communicating through WhatsApp only.

In this study, 51% respondents claimed that they have less than 200 followers on Instagram, 17.6% have 200-400 followers and 3% have their Instagram followers range is 400-600, while 25.4% of the participants reported that they have more than 600 Instagram followers. Moreover, just 5.3% participants strongly agreed and 17.9% agreed that Instagram with the statement "Instagram makes me feel good about myself and my body image", majority of the respondents either strongly disagreed (25.7%) or disagreed with the statement (51.1%) but 17.9% participants agreed and 5.3% strongly agreed that Instagram make them feel good.

Furthermore, majority of participants (53.2%) reported that now-a-days the young generation (18-24 years) is concerned about their appearance and image on Instagram and real world both. However, 32.9% respondents agreed that youth is more concerned about their look and appearance with regards to Instagram only, yet 13.9% participants agreed that still there is a younger population who are concerned for their outlook in real world only.

Regarding opinion about Instagram, 73.1% respondents believe that it has a more positive impact in society through networking, creativity and maintaining long-distance communication, but 26.9% accepted that Instagram has a more negative impact through bullying, insecurities and a focus on appearance.

Only 23.7% participants reported that they thought about the violation of privacy for users by WhatsApp and 54.60% stated that they were aware of the impacts of WhatsApp on health and life style of the users. Though, 56% participants confirmed that they are not willing to give up use of WhatsApp even after knowing the negative impact. Detailed results about perception and knowledge related to WhatsApp is given in **Figure 1**.

Regarding the effect of Instagram use on human's behavior

A total of 83.9% participants responded in favor of greater separation between reality and virtual world but still 16.10% are against this idea. Besides, 71.20% participants agreed that use of

Instagram could generate unhealthy habits like stalking the profile of another user and then setting your opinion based on that profile, or getting

obsessed with the like or comments received; whereas 28.80% respondents didn't accept this fact.

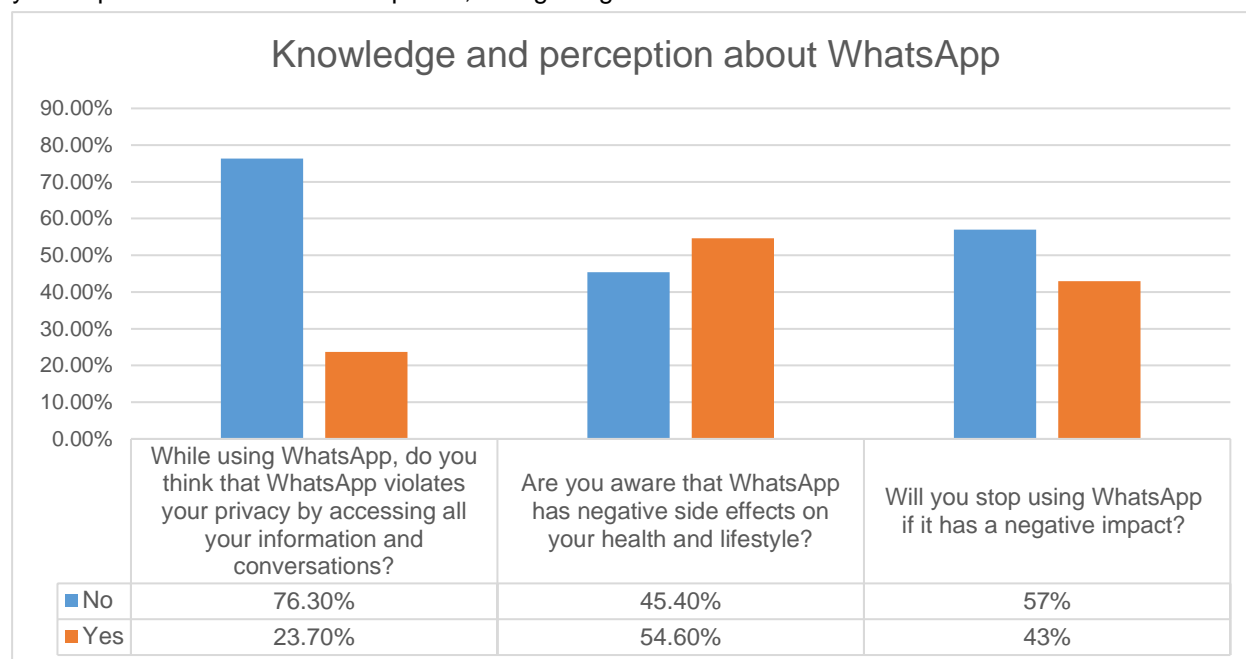


Figure 1. The knowledge and perception of users about WhatsApp

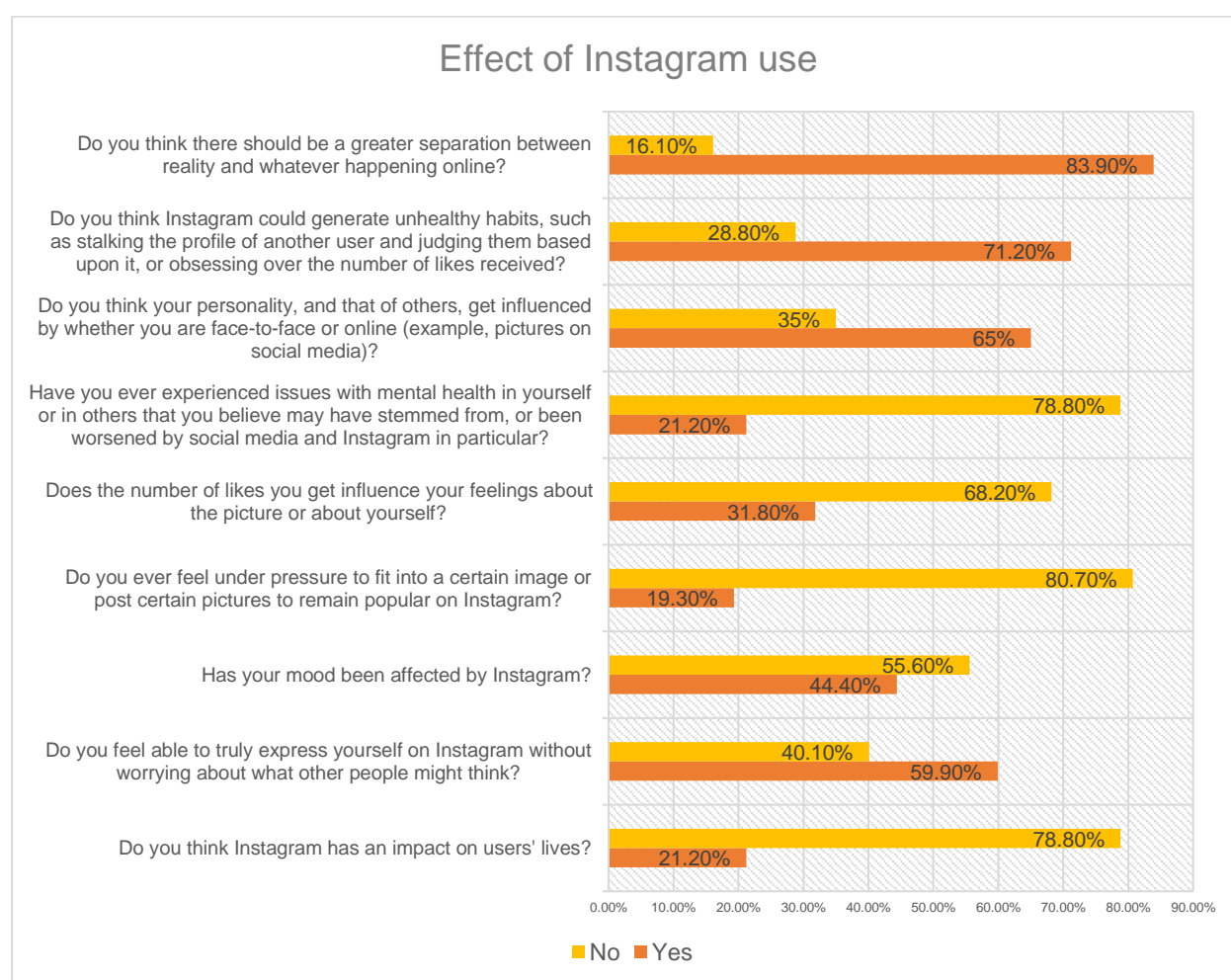


Figure 2. The effects of Instagram use on behavior

In this study, 65% respondents accepted that difference between being face to face or the pictures uploaded on social media could affect the personality of user, while 35% of participants gave their opinion against it. Interestingly, 78.8% participants never experienced mental health related issues that began or been worsened by social media and Instagram in particular. However, a significant proportion (21.2%) of study population agreed that the influence of Instagram (in particular), is responsible for worsening of issues related to mental health. Furthermore, 31.8% participant admitted that their feelings about themselves get influenced by the number of "likes" on Instagram, while 68.20% participants reported that there is no effect of social media "likes" on their perception about themselves or any picture.

Luckily, a great proportion of participants (80.7%) refuses that they never felt pressure to fit into a certain image or post certain pictures to remain popular on Instagram but 19.3% participants confirmed that they feel pressure to post certain picture or kept themselves fit for certain image just to maintain their popularity on Instagram. Almost half (55.6%) of study population agreed that their mood get influenced by Instagram whereas the remaining 44.4% participants didn't accept that their mood fluctuated by social media (Instagram in particular).

Additionally, 59.9% participants reported that they are capable of expressing themselves truly on Instagram without worrying about what other people might think but 40.1% responded hesitation in doing so. Remarkably, 78.8% participants responded that Instagram has no impact on individual's life but 21.20% participants accepted that Instagram has influence on users' life. Detailed results are shown as bar chart shown above (**Figure 2**).

Discussion

Social media had engaged our daily hours in a huge percentage because its excessive use has led to it's daily "addiction". Because of the excessive use of social networking sites, consequences such as addiction, nervous tension, depression (associated with excessive use of social media) and many other mental and psychological diseases take place. The increasing use of social media in the current period is a point of concern for parents, society, as well as researchers, as there are always two sides (positive and negative) to every innovation.

It has been reported that there are also increasing worries that social media might lead to social anxiety in users with the growth of social media use [6]. Social anxiety can be described as one's state of avoiding social interactions and appearing

inhibited in such interactions with other people. It has been reported that social anxiety could arise from managing a large network of social media friends, feeling jealous of their lives, and the "fear of missing out" on activities during online interactions [7]. Social comparison consists of people's biological inclination to evaluate their situation, skill, and overall identity as compared to others, created on the information they receive about others [8]. Gilbert (2000) [9] reported that upward social comparison (e.g. comparing with others who are perceived as better in a particular aspect) might lead to increased social anxiety. Some people rank lower than others, which could increase mental access to negative self-assessment and self-imagery during interactions with other people, resulting in greater social anxiety [10]. Even downward social comparison (e.g., comparing oneself with others who are perceived to be inferior) could also leads to enhanced social anxiety. Over passage of time, this excessive self-consciousness as a result of social comparison could lead to one's perception of lack of social skills, and even fear of social interactions [11]. On social media, people often selectively reveal themselves and construct their preferred identities or characteristics e.g., emotions, personality traits and opinions [12].

The social media network creates ubiquitous comparison in terms of followers, likes, comments, and retweets. Such information allows people to form impression on others rapidly. Additionally, comparison information on social media is more salient and visible as compared to the offline setting [13].

The low self-esteem can increase social anxiety for several reasons. Firstly, individuals with decreased self-esteem often have less interactions with others, impeding the development of friendly relationships that are important for one's well-being [14]. Secondly, the people with the lower self-esteem tend to depend on extrinsic social approval for a better sense of self. They frequently perceive that they are looked down by others, and interpret responses from others to be hostile, which could lead to increased social anxiety [15]. Lastly, people suffering from low self-esteem are prone to be self-victimizing and accusing others for their social failures, instead of taking responsibility for their personal decisions. Such tendencies would cause avoidance of the people, unfamiliar contexts, and a general social detachment, increasing the risks of social anxiety [16].

Instagram is mainly used for photos and video sharing by escalating social presence [17], and visuals are also easier to recall than text-based information. Thus, social comparison and its effects on self-esteem become more pronounced on Instagram.

Excessive use of social media leads to disastrous results in an individual that begins with anxiety and leads to the depression. Pantic et al (2012) [18] reported that time spent on Facebook by adolescents is positively correlated with depression. Rosen et al (2013) [19], mirrored these findings and revealed that symptoms of major depression has been found among the individuals who spent most of their time in online activities and performing image management on social networking sites.

Studies revealed that among the various age groups of students, university students are among the most using social networking [20]. A recent study from KSA showed that 97% of the students used social media applications. Only 1% of them used social media for academic purposes. Whereas 35% of them used these platforms to chat with others, 43% of them browsed these sites to pass time [21]. While in our study population 45.6% respondents mentioned that they use WhatsApp for carrying out studies related tasks, whereas 41.5% participants admit that they use it to interact with family and friends. Moreover, 6.8% participants use the App for time pass and just 3% of participants use it to entertain themselves and broadcasting jokes.

Relying solely on social media (i.e. without physical proximity) to build and maintain relationships can lead to loneliness, alienation, and depression [22]. Smartphones create a psychological distance between individuals by decreasing face-to-face interactions between family members and friends; affect the quality of time spent on these relationships. This can have a significant effect on social well-being and satisfaction among friends [23].

Recommendation

The awareness about these negative aspects of social media must be done by awareness campaigns in schools, companies and universities and making television programs about them. Moreover, awareness of youth to pay attention to their mental and psychological health and to allocate time to practice many activities away from social media is urgently needed.

A proper awareness movement can be organized to understand the effects of usage of social media on mental health on younger generation. The social networking sites should be constrained to certain age limit. Any social media application that has not positive effect like discrimination, violence and racism should be dissolved at once completely.

Conclusion

In our study, a small proportion of Instagram handlers in Jazan reported that using Instagram has negative impact on mental health. A significant number of participants agreed that use of Instagram could generate unhealthy habits like provocation of other user's profile and then setting the opinion based on that profile, or getting obsessed with the like or comments received. Though there is development of adverse practices for other users, but 78.8% participants responded that Instagram has no impact on individual's life.

Interestingly, we have observed that two-third of the participants prefer to communicate with friends and relatives through WhatsApp only. Majority of the participants are not willing to stop use of WhatsApp even after knowing the adverse effects.

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Author contributions

FS conceived and designed research. FS and SNQ collected data. FS and SNQ analyzed data. FS wrote the manuscript. TB and FK helped in writing manuscript. All authors read and approved the final manuscript for publication.

Disclaimer

The conclusions drawn in this article are the individual perceptions and outcome of the data collected from the urban population of a particular city having large section of student community residing around a university.

References

1. Bashir H, Bhat SA. Effects of social media on mental health: A review. *Int J Indian Psychol.* 2017; 4(3). doi: 10.25215/0403.134.
2. Rotondi V, Stanca L, Tomasuolo M. Connecting alone: Smartphone use, quality of social interactions and well-being. *J Econ Psychol.* 2017 Dec; 63:17-26. doi: 10.1016/j.joep.2017.09.001.
3. Kaur R, Bashir H. Impact of social media on mental health of adolescents. *International Journal of Education.* 2015; 5:22-29.
4. Zhan F, Laines G, Deniz S, Paliskara S, Ochoa I, Guerra I, Tayeb S, Chiu C, Pirouz M, Ploutz E, Zhan J, Gewali L, Oh P. Prediction of online social networks users' behaviors with

- a game theoretic approach. 2018 15th IEEE Annual Consumer Communications & Networking Conference (CCNC), 2018, pp. 1-2. doi: 10.1109/CCNC.2018.8319308.
5. Chua TH, Chang L. Follow me and like my beautiful selfies: Singapore teenage girls' engagement in self-presentation and peer comparison on social media. *Computers in Human Behavior*. 2016 Feb; 55:190-7. doi: 10.1016/j.chb.2015.09.011.
 6. Jelenchick LA, Eickhoff JC, Moreno MA. "Facebook depression?" social networking site use and depression in older adolescents. *J Adolesc Health*. 2013 Jan;52(1):128-30. doi: 10.1016/j.jadohealth.2012.05.008. PMID: 23260846.
 7. Hampton KN, Lu W, Shin I. Digital media and stress: the cost of caring 2.0. *Information, Communication & Society*. 2016; 19(9):1267-86. doi: 10.1080/1369118X.2016.1186714.
 8. Festinger L. A theory of social comparison processes. *Human Relations*. 1954; 7(2):117-40. doi: 10.1177/001872675400700202.
 9. Gilbert P. The relationship of shame, social anxiety and depression: The role of the evaluation of social rank. *Clin Psychol Psychother*. 2000 Jul; 7(3):174-89. doi: 10.1002/1099-0879(200007)7:3<174::aid-cpp236>3.0.co;2-u.
 10. Stein DJ. Social anxiety disorder and the psychobiology of self-consciousness. *Front Hum Neurosci*. 2015 Sep 23;9:489. doi: 10.3389/fnhum.2015.00489. PMID: 26441590; PMCID: PMC4585074.
 11. Vahia VN. Diagnostic and statistical manual of mental disorders 5: A quick glance. *Indian J Psychiatry*. 2013 Jul;55(3):220-3. doi: 10.4103/0019-5545.117131. PMID: 24082241; PMCID: PMC3777342.
 12. Vogel EA, Rose JP, Roberts LR, Eckles K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*. 2014; 3(4):206-22. doi: 10.1037/ppm0000047.
 13. Appel H, Gerlach AL, Crusius J. The interplay between Facebook use, social comparison, envy, and depression. *Current Opinion in Psychology*. 2016 Jun; 9:44-9. doi: 10.1016/j.copsyc.2015.10.006.
 14. Fatima M, Niazi S, Ghayas S. Relationship between self-esteem and social anxiety: Role of social connectedness as a mediator. *Pakistan Journal of Social and Clinical Psychology*. 2017; 15(2):12-7.
 15. Cuming S, Rapee RM. Social anxiety and self-protective communication style in close relationships. *Behaviour Research and Therapy*. 2010 Feb; 48(2):87-96. doi: 10.1016/j.brat.2009.09.010.
 16. Tracy JL, Robins RW. "Death of a (Narcissistic) salesman": An integrative model of fragile self-esteem: Comment. *Psychological Inquiry*. 2003; 14(1):57-62.
 17. Johnson BK, Knobloch-Westerwick S. When misery avoids company: Selective social comparisons to photographic online profiles. *Human Communication Research*. 2016 Jan; 43(1):54-75. doi: 10.1111/hcre.12095.
 18. Pantic I, Damjanovic A, Todorovic J, Topalovic D, Bojovic-Jovic D, Ristic S, Pantic S. Association between online social networking and depression in high school students: behavioral physiology viewpoint. *Psychiatr Danub*. 2012 Mar;24(1):90-3. PMID: 22447092.
 19. Rosen LD, Whaling K, Rab S, Carrier LM, Cheever NA. Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*. 2013 May; 29(3):1243-54. doi: 10.1016/j.chb.2012.11.012.
 20. Azizi SM, Soroush A, Khatony A. The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study. *BMC Psychol*. 2019 May 3;7(1):28. doi: 10.1186/s40359-019-0305-0. PMID: 31053171; PMCID: PMC6500070.
 21. Kolhar M, Kazi RNA, Alameen A. Effect of social media use on learning, social interactions, and sleep duration among university students. *Saudi J Biol Sci*. 2021 Apr;28(4):2216-2222. doi: 10.1016/j.sjbs.2021.01.010. PMID: 33911938; PMCID: PMC8071811.
 22. Owusu-Acheaw M, Larson AG. Use of social media and its impact on academic performance of tertiary institution students: a study of students of Koforidua Polytechnic, Ghana. *J Educ Practice*. 2015; 6(6):94-101.
 23. Abbas J, Aman J, Nurunnabi M, Bano S. The impact of social media on learning behavior for sustainable education: Evidence of students from selected universities in Pakistan. *Sustainability*. 2019 Mar 20; 11(6):1683. doi: 10.3390/su11061683.