

Relationship Between Loneliness, Social Media Addiction and Peer Pressure Among Undergraduate Students

Douglas John Ufuoma¹: Amadi, Martins Ikechukwu²: Ferdinand, Egbenya³: Ezugwu, Clara Obioma¹

¹Enugu State University of Science and Technology,

²Nigeria Maritime University

³Federal College of Agriculture Ishiagu Ebonyi state

DOI: [10.56201/rjmcit.vol.11.no5.2025.pg36.46](https://doi.org/10.56201/rjmcit.vol.11.no5.2025.pg36.46)

Abstract

The study investigated the relationship between loneliness, social media addiction and peer pressure among undergraduate students, two hundred and ninety-four (294) undergraduate students comprising 178 females and 116 males with an age range of 19-23 years, mean age of 20.66 and S.D 1.125 were drawn using multi-stage (cluster, simple random: by balloting and purposive) sampling techniques as participants from Enugu State University of Science and Technology, Enugu. Kiran-Esen (2002) Peer Pressure Scale (PPS), Russell, Peplau, and Ferguson, (1978) UCLA Loneliness Scale and Andreassen et al., (2012) Bergen social media addiction scales were used for data collections, a correlational design was adopted, and a Pearson moment coefficient was used as choice of statistic to analyze the data. The finding shows that loneliness did not relate to peer pressure, social media addiction did not also relate to peer pressure. Hence, feature researchers should study variables that can cause the occurrence of peer pressure.

Keywords: *loneliness, social media addiction, peer pressure, students, undergraduate*

Introduction

Peer pressure is defined as the process through which individuals within the same social group exert influence on one another to engage in behaviours they may initially resist or may not ordinarily select (Hartney, 2022). The term "peers" refers to individuals who belong to the same social group, thus peer pressure specifically pertains to the effects that peers can have on each other (Hartney, 2022). This concept is often discussed in the context of behaviours deemed socially unacceptable or undesirable, such as the experimentation with alcohol or illicit drugs. While the term is not typically employed to describe socially desirable behaviours, such as exercising or academic diligence, it is important to recognize that peer pressure can yield positive outcomes in certain instances. In essence, peer pressure can manifest as either a positive or negative influence that one individual or a group of individuals exerts on another person (Hartney, 2022). The following six terms are frequently utilized to categorize the various forms of peer pressure an individual may encounter.

As the name suggests, spoken peer pressure is when someone verbally influences another person to do something (Anike et al., 2024). For instance, a teenager might influence their friend to smoke a cigarette by saying, come on, one cigarette won't hurt. Unspoken peer pressure, on the other hand, is when no one verbally tries to influence you (Anike et al., 2024). However, there is still a standard set by the group to behave in a certain way. Even if no one tells the teenager to smoke a cigarette in the example above, the teen may still feel pressured by their peers to partake in the activity because it seems like everyone is doing it (Graupensperger et al., 2018). Direct peer pressure is when a person uses verbal or nonverbal

cues to persuade someone to do something. The example mentioned above of a teen handing another teen a cigarette is also an instance of direct peer pressure because the teen on the receiving end must decide on the spot how they're going to respond. With indirect peer pressure, no one is singling you out, but the environment you're in may influence you to do something. If you're at a party where everyone is drinking, for instance, you might feel pressured to drink even if no one asks you to (Morris et al., 2020). Finally, peer pressure can be described as either positive or negative. Positive peer pressure is when a person is influenced by others to engage in a beneficial or productive behaviour. Negative peer pressure is the influence a person faces to do something they wouldn't normally do or don't want to do as a way of fitting in with a social group. People often face negative peer pressure to drink alcohol, do drugs, or have sex (Clark et al., 2020).

Peer pressure causes people to do things they would not otherwise do with the hope of fitting in or being noticed. Things people may be peer pressured into doing include (Clark et al., 2020): Acting aggressively (common among men) (Stanaland & Gaither, 2021), Bullying others (Sabramani et al., 2021), Doing drugs, dressing a certain way Drinking alcohol Engaging in vandalism or other criminal activities (Kim & Fletcher, 2018), Having sex, physically fighting, only socializing with a certain group. Loneliness and peer pressure are intertwined psychological concepts that can significantly impact an individual's well-being, especially during adolescence. Peer pressure, the feeling of being pressured to conform to a group's expectations, can be a source of stress and anxiety, and in some cases, lead to feelings of loneliness or social isolation if individuals are unable to resist negative influences (2022). Loneliness, conversely, can make individuals more susceptible to peer pressure, as they may seek social validation and acceptance from others to combat feelings of isolation

Loneliness is a part of the human condition that affects all ages. It is a subjective negative feeling related to the person's own experience of deficient social relations. A sense of loneliness is associated with an individual's evaluation of their overall level of social interaction and describes as a deficit between the actual and desired quality and quantity of social engagement (Peplau & Perlman, 1982; Bhagchandani, 2017). Loneliness can be a reaction to the lack of social relations one needs or even though one has the social relations but they are not intimate or satisfying according to the needs or they lack sincerity and emotions in them. Human beings are said to actively engage each other and the universe as they communicate, and loneliness is merely the feeling of being cut off from this process (Peplau, & Perlman, 1989; Bhagchandani, 2017).

Cherry (2021) describe loneliness is a state of mind that causes people to feel empty, alone, and unwanted. Loneliness is the distress that results from discrepancies between ideal and perceived social relationships (Bhagchandani, 2017). People who are lonely often crave human contact, but their state of mind makes it more difficult to form connections with other people (Cherry 2021). While Solitude, on the other hand, is voluntary (Cherry 2021). People who enjoy spending time by themselves continue to maintain positive social relationships that they can return to when they crave connection (Cherry 2021). They still spend time with others, but these interactions are balanced with periods alone. Cacioppo and Cacioppo, (2018) suggest that loneliness is associated with social isolation, poor social skills, introversion, and depression. Loneliness, according to many experts, is not necessarily about being alone. Instead, if you feel alone and isolated, then that is how loneliness plays into your state of mind (Cherry 2021). The following are the types of loneliness (Bhagchandani, 2017): Interpersonal Loneliness: This is the result of losing a significant, or intimate, relationship. When there is a loss of a significant person in one's life, that person starts feeling alone in between a crowd. This may include the loss of a spouse after divorce due to unstable marriage or due to unfortunate circumstances like death. Social Loneliness. This is where a person is on the fringes of a group, excluded from a group, or actively rejected. This also includes physical absence of meaningful people around a

person and withdrawal from social circles. Cultural Loneliness. This is where a person belongs to a different culture and feels that they do not fit, or belong, in the new culture. Intellectual Loneliness. This is where a person intellectually or educationally remains out of synch with their peers, their family or their social group. Psychological loneliness. This is where a person has experienced trauma that separates them from others around. Existential or cosmic Loneliness. This is an isolating loneliness experienced by a person who is facing death.

Most people experience loneliness at some points in their lives, and some feel it very often. The effects of loneliness are also varied. Transient loneliness (loneliness which exists for a short period of time) is related to positive effects, including an increased focus on the strength of one's relationships (Qualter, et al., 2015; Fay, 2019). Chronic loneliness (loneliness which exists for a significant amount of time in one's life) is generally correlated with negative effects, including increased obesity, risk of cardiovascular disease, risk of high blood pressure, and high cholesterol (Leigh-Hunt, et al., 2017; Cacioppo, & Hawkley, 2010). Chronic loneliness is also correlated with an increased risk of death and suicidal thoughts. Loneliness has a wide range of negative effects on both physical and mental health (Hämmig 2019), including: Alcohol and drug misuse, Altered brain function, Alzheimer's disease progression, Antisocial behaviour, cardiovascular disease and stroke (Xia, & Li 2018), Decreased memory and learning, Depression and suicide, Increased stress levels, Poor decision-making. Previous studies have revealed the detrimental impacts of social media addiction on users' health. A systematic review by Khan and Khan (Akhter-Khan et al., 2021) has pointed out that social media addiction has a negative impact on users' mental health. For example, social media addiction can lead to stress levels rise, loneliness, and sadness (Ali et al., 2022).

Social media generally refers to third-party internet-based platforms that mainly focus on social interactions, community-based inputs, and content sharing among its community of users and only feature content created by their users and not that licensed from third parties (Asur & Huberman, 2010). Social networking sites such as Facebook, Instagram, and TikTok are prominent examples of social media that allow people to stay connected in an online world regardless of geographical distance or other obstacles (Kaye, 2021; Boyd & Ellison, 2007). Recent evidence suggests that social networking sites have become increasingly popular among adolescents following the strict policies implemented by many countries to counter the COVID-19 pandemic, including social distancing, lockdowns, and quarantine measures (Marengo et al., 2021). In this new context, social media have become an essential part of everyday life, especially for children and adolescents (Alshamrani et al., 2021). For them such media are a means of socialization that connect people together. Interestingly, social media are not only used for social communication and entertainment purposes but also for sharing opinions, learning new things, building business networks, and initiate collaborative projects (Malesev & Cherry, 2021).

The use of social media (SM), the internet, and smartphones have markedly increased in the past decade. According to We Are Social (2022), worldwide there are 4.95 billion internet users, 4.62 billion SM users, and 5.31 billion smartphone users. These users spend an average of 6 hours 58 minutes a day on the internet and 92% of the internet users are connected via smartphone. Research indicates that as access to smartphones has become more affordable to the general public, the use of the internet has markedly increased and that SM applications occupy the largest use (Ergün et al., 2021; We Are Social, 2022). Without smartphones, SM applications and the internet may not be used so often (Montag et al., 2019). These three technologies are highly inter-connected (Davey et al., 2018) and without any of them, their use, popularity, effects, and consequences would likely be different.

The amount of research on problematic use of social media has dramatically increased since the last decade. But using social media in an unhealthy manner may not be considered an addiction or a disorder as this behaviour has not yet been formally categorized as such

(Wegmann et al., 2018). Although research has shown that people who use social media in a negative way often report negative health-related conditions, most of the data that have led to such results and conclusions comprise self-reported data (Motoki et al., 2020). The dimensions of excessive social media usage are not exactly known because there are not enough diagnostic criteria and not enough high-quality long-term studies available yet. This is what Zendle and Bowden-Jones (2019) noted in their own research. And this is why terms like “problematic social media use” have been used to describe people who use social media in a negative way. Furthermore, if a lot of time is spent on social media, it can be hard to figure out just when it is being used in a harmful way. For instance, people easily compare their appearance to what they see on social media, and this might lead to low self-esteem if they feel they do not look as good as the people they are following. According to research in this domain, the extent to which an individual engages in photo-related activities (e.g., taking selfies, editing photos, checking other people's photos) on social media is associated with negative body image concerns. Through curated online images of peers, adolescents face challenges to their self-esteem and sense of self-worth and are increasingly isolated from face-to-face interaction.

Cognitive theorists Piaget (1932) is adopted as theoretical framework because it emphasizes the role of peer relationships in the cognitive development of a child. It distinguished peer relationships as opposed to relationships with parents, based on the idea that peer relationships can be described as more balanced in power and egalitarian. This equality in relationships makes it possible to develop abilities to understand other's thoughts, emotions and intentions (Mead, 1934; Piaget, 1932). Peer relationships also promote the development of self-reflection (Mead, 1934). Through interactions with peers, children learn and adopt various patterns and models of social behaviour, as well as rules and norms (Bandura, 1977).

These perspectives on peer relationships and their role in a child's development have given modern scholars a solid ground to build their models, such as transactional models of development, proposed by Rubin et al. (2013). They propose that the child's characteristics, the family characteristics, the quality of relationships within and outside of the family, culture, stress and social support, all these factors would determine the relationships the child establishes with peers. The process is dynamic and multidirectional; thus, the child is viewed as an active agent of the social environment. Further, authors suggest that development could go in two directions: a pathway to psychological adaptation and a maladaptive pathway. The first one starts with secure parent-child relationships that with time promote and stimulate engagement in establishing positive relationships outside of the family. Thus, by expanding the environment for social interactions a child acquires various social skills (e.g. understanding others, problem solving). The secure relationships with parents represent the source of support and guidance in dealing with various challenges with peers when they occur in more adaptive way. Hence, for transactional models it is essential to view the model as a whole with all its components constantly interacting and influencing each other. The maladaptive pathway is characterized by difficult temperament demonstrated by a child and/or parents, development of insecure parent-child relationships, unfortunate parenting style (e.g. authoritarian), and family stress. All these factors are believed by authors to contribute in incompetent behaviours toward peers, which may result in peer rejection and other developmental maladjustments (Rubin et al., 2013). Hence the need to investigate the relationship loneliness and social media have on peer pressure among undergraduate students. Thus, the following hypotheses.

- Loneliness will relate to peer pressure among undergraduate students
- Social media will relate to peer pressure among undergraduate students.

METHOD

Participants

Two hundred and ninety-four (294) undergraduate students comprising 178 females and 116 males with an age range of 19-23 years, mean age of 20.66 and S.D 1.125 were drawn using multi-stage (cluster, simple random: by balloting and purposive) sampling techniques as participants from Enugu State University of Science and Technology, Enugu. The students were clustered according to their faculties, simple random: balloting was used to pick the faculties/departments, while purposive sampling techniques were used to draw the participants, from the following faculties: Applied natural sciences (40), Agriculture and natural resource management (38), Environmental sciences (35), Engineering (39), Pharmacy (47), Education (53) and Law (42).

Instrument

Two sets of instruments were used for the study; namely

1. Kiran-Esen (2002) Peer Pressure Scale (PPS)
2. Russell, Peplau, and Ferguson, (1978) UCLA Loneliness Scale
3. Andreassen et al., (2012) Bergen social media addiction scale

Kiran-Esen (2002) Peer Pressure Scale (PPS)

Peer Pressure Scale (PPS). Developed by Kiran-Esen (2002), the Peer Pressure Scale consists of 34 items. It is a five-point Likert scale and uses the ratings of “never” (1 point), “infrequently” (2 points), “sometimes” (3 points), “frequently” (4 points), “always” (5 points). The lowest possible score is 34 and the highest is 170, with higher scores indicating high levels of peer pressure. Factor analysis was applied for the scale’s structure validity, and it was found that 19 out of 34 items were combined in the first factor and 15 items were combined in the second factor (Kiran-Esen, 2002). The total variance that was explained by the two factors was 40.527%. For all of the 34 items, the consistency correlation coefficient was 0.90. As a result of the test-retest method, the stability coefficient for the whole test was 0.82. In this study, the total points were used and the internal consistency coefficient was found to be 0.93.

Russell, Peplau and Cutrona (1980). The revised UCLA Loneliness Scale

The UCLA Loneliness Scale was redesigned by Russell et al., in 1980. It has 20 items and was tested for concurrent and discriminate validity. Items 1, 5, 6, 9, 10, 15, 16, 19, 20, and 20 are all reverse rated. The scale has 10 positively and 10 negatively scored items. The measure has a test-retest correlation of .73 over two months and strong internal consistency (coefficient $\alpha = .96$) (Ferguson et al., 1978).

Andreassen et al., (2012) Bergen social media addiction scale

Bergen Social Media Addiction Scale is developed from the Bergen Facebook Addiction Scale with a simple modification of the term Facebook to Social media. It's a short survey used in psychological research that has been widely accepted by the psychology community. It's quick and something you can take yourself. It is a 6 item scale designed to expose the difficulties an individual faces due to social media's excessive usage and assess the severity accordingly. The six items of BSMAS are measured against 5 standard responses of “very rarely,” “rarely,” “sometimes,” “often,” “very often.” The Bergen social media addiction scale is straightforward and short, with an accurate social media addiction assessment. The 6 items are measured against a 5 point Likert scale, 1 for “very rarely” to 5 for “very often.” Then scores of each item are added to get the overall score of the BSMAS. The total score of BSMAS ranges from 6-30. According to researchers, when you score more than 3 for 4 items out of 6, it is definitely an addiction indicator.

Procedure

Undergraduate students were drawn as participants from seven faculties in Enugu State University of Science and Technology (ESUT) using multi-stage sampling (cluster, simple random: by balloting, and availability) techniques for this study. The students were clustered according to their faculties, then simple random: by balloting was used to pick the faculties while purposive sampling technique was used to draw students from the seven selected faculties. The researchers employed the research assistants who are faculties' student's executives from the selected faculties to help distribute and retrieve the questionnaire. Three hundred and five (305) questionnaires were distributed; three hundred (300) were returned. Among the returning ones, four (4) bear multiple initials and the other two (2) were not properly responded to, which makes the numbers properly responded to be two hundred and ninety-four, which were used for data analysis.

Design/statistics

The design for the study was a correlational. This is because the researchers investigated the relationship between the study variables without manipulating or controlling any of them. Therefore, the researchers adopted Pear moment coefficients statistics with the aid of SPSS version 27) to manage the data to test the formulated hypotheses and account for the contribution of each of the variables.

Results

Table I: descriptive and correlational statistics

S/N	Variables	Mean	S.D	1	2	3	4	5	6	7	8	9
1	Intimacy	47.395	8.25585	1	.310*	.694**	.491**	.027	.254	-.115	.146	.033
2	Popularity	14.541	3.76410		1	.436**	.173	-.275	.161	-.019	.049	-.336*
3	Trust	26.395	5.01801			1	.605**	-.011	.278	.022	-.048	-.128
4	Insightfulness	19.000	4.41949				1	.084	-.005	-.101	-.058	.051
5	Loneliness	54.000	12.6082					1	-	.047	.020	.116
6	Social media addiction	15.906	3.63992						1	.314*	.117	-.041
7	Age	21.291	1.99956							1	-.210	.333*
8	Gender	1.5625	.50133								1	-.015
9	Year of study	2.3617	1.18735									1

Correlation is significant at the 0.05 level (2-tailed).*

Correlation is significant at the 0.01 level (2-tailed) **

Table above shows that years of study $r = -.336^*$ at $p < .05$ negatively relate to popularity dimension of peer pressure. This implies that an increase in years of study will cause a decrease in popularity dimension of peer pressure. Loneliness $r = -.314^*$ at $p < .05$ negatively relate to social media addiction, which means that an increase in loneliness will lead to decrease in social media addiction among undergraduate students. Gender $r = .333^*$ at $p < .05$ positively relate to years of study, which indicates that an increase in age will cause an increase in years of study among undergraduate students.

Discussion

The hypothesis that was tested posited a relationship between loneliness and peer pressure among undergraduate students. However, the results did not support this hypothesis. The findings indicate a lack of correlation between the two factors, suggesting that loneliness does not lead to an increase in peer pressure, nor does peer pressure impact feelings of loneliness. This implies that students experiencing loneliness do not necessarily succumb to peer influence, and those who face peer pressure are not inherently more likely to feel lonely. These insights challenge the common assumption that loneliness and peer pressure are interconnected issues among this demographic, highlighting the complexity of social dynamics in the student experience. Further research may be necessary to explore other factors that could mediate or influence these feelings.

The second hypothesis examined in this study posited that social media usage would have a significant correlation with peer pressure among undergraduate students. However, the results did not support this hypothesis. The findings reveal that there is no substantial relationship between social media addiction and peer pressure. This suggests that students who exhibit addictive behaviours towards social media platforms do not necessarily engage in or are influenced by peer pressure activities. This conclusion opens up new avenues for understanding how social media impacts student behaviour and highlights the complexity of social interactions in the digital age, indicating that factors other than peer pressure may be at play in the lives of socially media-engaged undergraduates.

Implications of the findings

The findings align with Piaget's cognitive theory (1932), which serves as a theoretical framework highlighting the significance of peer relationships in a child's cognitive development. Piaget differentiates these peer relationships from those with parents, asserting that peer interactions tend to be more egalitarian and balanced in power dynamics. This equality fosters the ability to understand others' thoughts, emotions, and intentions. Furthermore, these peer relationships encourage self-reflection, which, intriguingly, was found to have no connection to loneliness or social media addiction in the research. Through peer interactions, children are able to learn and adopt various social behaviour patterns, alongside rules and norms.

Practically, the findings indicates that loneliness, social media addiction and peer pressure were not related, but social media addiction negatively relates to loneliness, while popularity dimension of peer pressure negatively relates to age, and age positively relates to years of study. Hence, therapist/clinicians should not consider loneliness and social media addiction as part of peer pressure influencer. Further studies needs to be conducted on peer pressure to find out the factor or the variable that can mostly relate with it.

Limitation of the study

Some factors militated against this study, one of such is the sampled population. Sampling only one institution during exam reduces the numbers of participants, more students would have participated assuming more than one university was sampled.

The sampling techniques also affected the numbers of participants, the more students would have been sampled assuming a suitable sampling technique was adopted.

Some demographic variable were left on answered by the participants which lead to the researcher not including the outcome in the study, demographic such as religious affiliation, parental working status et al. These control variables would have help to give this study direction.

Suggestion for further study

Future researchers should consider sampling populations from different institution and also to consider carrying this study outside examination period, this will give student opportunity to participate in the research.

A suitable sampling technique should be considered by future researcher, because this will give room for the selection of larger population.

The future researcher should consider to arrange the demographic variables in such a way that the participants will not leave them unattended to.

Summary and Conclusion

The study investigated the relationship between loneliness, social media addiction and peer pressure among undergraduate students, findings indicated that there were no relationship between loneliness, social media addiction and peer pressure among undergraduate students.

References

- Akhter-Khan, S. C., Tao, Q., Ang, T. F. A., Itchapurapu, I. S., Alosco, M. L., Mez, J., Piers, R. J., Steffens, D. C., Au, R., & Qiu, W. Q. (2021). Associations of loneliness with risk of Alzheimer's disease dementia in the Framingham Heart Study. *Alzheimer's & dementia : the journal of the Alzheimer's Association*, 17(10), 1619–1627. <https://doi.org/10.1002/alz.12327>
- Ali T, Nilsson C. J, Weuve J, Rajan K. B, & Mendes de Leon C. F. (2018). Effects of social network diversity on mortality, cognition and physical function in the elderly: a longitudinal analysis of the Chicago Health and Aging Project (CHAP) *J Epidemiol Commun Health*. 72:990–996. doi: 10.1136/jech-2017-210236.
- Alshamrani S, Abusnaina A, Abuhamad M, Nyang D, & Mohaisen D. (2021). “Hate, obscenity, and insults: Measuring the exposure of children to inappropriate comments in youtube,” in *Companion Proceedings of the Web Conference..* p. 508–515. 10.1145/3442442.3452314
- Andreassen, C. S., Billieux, J. L., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., and Mazzoni, E. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: a large-scale cross-sectional study. *Psychol. Addict. Behav.* 30, 252–62. doi: 10.1037/adb0000160
- Anike, R. U., Chinawa, F. C., Ekwo, J. C., Umeokonkwo, C. N., Amadi, M. I., Douglas, J. U., Omeje, O., Eze P. N., Nwali, S. N. & Aniakwu C. J. (2024). Influence of perceived parenting styles on peer pressure among undergraduate students. *International Journal of Social Sciences and Management Research* 10(9) 2024. E-ISSN 2545-5303. P-ISSN 2695-2203 www.iiardjournals.org Online Version
- Asur, S., & Huberman, B. A. (2010). *Predicting the Future with Social Media*. <http://www.hpl.hp.com/research/scl/papers/socialmedia/socialmedia.pdf>
- Bandura A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191–215. <https://doi.org/10.1037//0033-295x.84.2.191>
- Bhagchandani, R. K. (2017). Effect of loneliness on the psychological well-being of college students. *International Journal of Social Science and Humanity*, 7(1), 60-6
- Chiao, C., Lin, K. C., & Chyu, L. (2022). Perceived Peer Relationships in Adolescence and Loneliness in Emerging Adulthood and Workplace Contexts. *Frontiers in psychology*, 13, 794826. <https://doi.org/10.3389/fpsyg.2022.794826>
- Boyd, D., & Ellison, N. (2008). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13, 210-230. <http://dx.doi.org/10.1111/j.1083-6101.2007.00393.x>
- Cacioppo J. T, & Cacioppo S. (2018). The growing problem of loneliness. *Lancet*. 391(10119):426. doi:10.1016/S0140-6736(18)30142-9
- Cherry, K. (2021). *Loneliness: Causes and Health Consequences*. <https://www.verywellmind.com/loneliness-causes-effects-and-treatments-2795749>
- Clark D. A, Donnellan M. B, Durbin C. E, et al. (2020). Sex, drugs, and early emerging risk: Examining the association between sexual debut and substance use across adolescence. *PLoS ONE*. 15(2):e0228432. doi:10.1371/journal.pone.0228432
- Ergün, N., Özkan, Z., & Griffiths, M. D. (2023). Social Media Addiction and Poor Mental Health: Examining the Mediating Roles of Internet Addiction and Phubbing. *Psychological reports*, 332941231166609. Advance online publication. <https://doi.org/10.1177/00332941231166609>
- Graupensperger, S. A., Benson, A. J., & Evans, M. B. (2018). Everyone Else Is Doing It: The Association Between Social Identity and Susceptibility to Peer Influence in NCAA Athletes. *Journal of sport & exercise psychology*, 40(3), 117–127. <https://doi.org/10.1123/jsep.2017-0339>

- Hämmig O. (2019). Health risks associated with social isolation in general and in young, middle and old age. *PloS one*, 14(7), e0219663. <https://doi.org/10.1371/journal.pone.0219663>
- Hartney, E. (2022). *Addiction: What to Know About Peer Pressure: It's not as simple as just saying no*. <https://www.verywellmind.com/what-is-peer-pressure-22246>
- Kaye, L. K. (2021). Exploring the “socialness” of social media. *Computers in Human Behavior Reports* 3(2):100083. DOI:10.1016/j.chbr.2021.100083
- Kıran-Esen, B. (2003b). Peer Pressure Scale: Validity and reliability study. *Educational Science and Practice*, 2, 65-79.
- Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Public health*, 152, 157–171. <https://doi.org/10.1016/j.puhe.2017.07.035>
- Malesev S, & Cherry M. (2021). Digital and social media marketing-growing market share for construction SMEs. *Construction Econom. Build.* 21:65–82. 10.5130/AJCEB.v21i1.7521
- Mead, G. H. (1934). *Mind, Self and Society*. University of Chicago Press.
- Montag, C., Lachmann, B., Herrlich, M., & Zweig, K. (2019). Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories. *International journal of environmental research and public health*, 16(14), 2612. <https://doi.org/10.3390/ijerph16142612>
- Morris, H., Larsen, J., Catterall, E., Moss, A. C., & Dombrowski, S. U. (2020). Peer pressure and alcohol consumption in adults living in the UK: a systematic qualitative review. *BMC Public Health*, 20(1), 1014. <https://doi.org/10.1186/s12889-020-09060-2>
- Motoki K., Suzuki S., Kawashima R., & Sugiura M. (2020). A combination of self-reported data and social-related neural measures forecasts viral marketing success on social media. *J. Interact. Mark.* 52, 99–117. doi: 10.1016/j.intmar.2020.06.003
- Peplau, L. A., & Perlman, D. (1982). Perspectives on loneliness. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A source book of current theory, research, and therapy* (1–18). New York: Wiley-Inter-science.
- Piaget, J. (1932) *The Moral Judgment of the Child*. The Free Press, New York
- Qualter P, Vanhalst J, Harris R, Van Roekel E, Lodder G, Bangee M, ... Verhagen M (2015). Loneliness Across the Life Span. *Perspectives on Psychological Science*, 10(2), 250–264. 10.1177/1745691615568999
- Russell, D., Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of personality assessment*, 42(3), 290–294. https://doi.org/10.1207/s15327752jpa4203_11
- Sabramani V, Idris I. B, Ismail H, Nadarajaw T, Zakaria E, & Kamaluddin M. R. (2021). Bullying and its associated individual, peer, family and school factors: Evidence from Malaysian National Secondary School students. *Int J Environ Res Public Health*. 18(13):7208. doi:10.3390/ijerph18137208
- Stanaland A, & Gaither S. (2021). “Be a man”: The role of social pressure in eliciting men’s aggressive cognition. *Pers Soc Psychol Bull.* 47(11):1596-1611. doi:10.1177/0146167220984298
- We Are Social. *Digital 2022: Global Overview Report*. (2022). Available online at: <https://datareportal.com/reports/digital-2022-global-overview-report>
- Wegmann, E., Mueller, S. M., Ostendorf, S., & Brand, M. (2018). Highlighting internet-communication disorder as further internet-use disorder when considering neuroimaging studies. *Curr. Behav. Neurosc. Rep.* 5, 295–301. doi: 10.1007/s40473-018-0164-7

- Xia, N., & Li, H. (2018). Loneliness, Social Isolation, and Cardiovascular Health. *Antioxidants & redox signaling*, 28(9), 837–851. <https://doi.org/10.1089/ars.2017.7312>
- Zendle, D., & Bowden-Jones, H. (2019). Is excessive use of social media an addiction?. *BMJ (Clinical research ed.)*, 365, l2171. <https://doi.org/10.1136/bmj.l2171>