

TECHNICAL ASSISTANCE BRIEF:

The Relation of Social Media and Adolescent Mental Health: A Rapid Review (02/2022)

Purpose: To update seminal research on the relation of social media and adolescent mental health through the process of a rapid review. This review was conducted by the <u>National Center for Education in Maternal and Child Health</u> at <u>Georgetown University</u>.

Background: Three seminal systematic reviews with meta-analyses (2017, 2018, and 2020) were identified to begin the rapid review.

The first review was conducted to examine mental health outcomes associated specifically with the social networking site (SNS), Facebook by <u>Frost and Rickwood</u>, <u>2017</u>.¹ A total of 65 articles met inclusion criteria and were reviewed. Facebook use was associated with six key mental health domains: Facebook addiction, anxiety, depression, body image and disordered eating, drinking cognitions and alcohol use, and other mental health problems, albeit the strength and validity of these relationships varied. The review highlighted the multidimensional nature of Facebook use, and the subsequent importance of assessing specific SNS platforms or similar functions over platforms. The application of meta-analytic techniques is required to quantify the nature and direction of the relationships between Facebook use and mental health outcomes, as well as to identify pertinent moderators and individual difference factors.

The second review, Marino, 2018, examined the associations between problematic Facebook use, psychological distress (i.e., depression, anxiety, etc.) and well-being (life satisfaction, positive mental health) among adolescents and young adults. The main aim was to summarize the relations between problematic Facebook use and psychological distress and general wellbeing, thus studies that have analyzed simple Facebook use were excluded. The mean age of the participants across the collection of studies was 21.93 years (SD = 3.97), with sample means ranging from 16.5 to 32.4 years. Results of random effects meta-analysis confirmed a positive correlation between problematic Facebook use and psychological distress (r = .34, 95% CI [.28, .39]). The main findings showed that problematic Facebook use is positively correlated with signs of psychological distress, including anxiety and depression. The effect sizes yielded by the present meta-analysis can be considered small-to medium according to Cohen's criteria, and medium-to-large according to Hemphill's criteria.

The final review, Karim et al., 2020, looked at 50 studies or reviews that were shortlisted from Google Scholar databases, and after the application of various inclusion and exclusion criteria, 16 articles were chosen and all papers were evaluated for quality. Eight articles were cross-sectional studies, three were longitudinal studies, two were qualitative studies, and others were systematic reviews. Findings were classified into two outcomes of mental health: anxiety and depression. Social media activity such as time spent to have a positive effect on the mental health domain. However, due to the cross-sectional design and methodological limitations of sampling, there are considerable differences. The structure of social media influences on mental health needs to be further analyzed through qualitative research and vertical cohort studies. This systematic review has found that social media envy can affect the level of anxiety and depression in individuals. In addition, other potential causes of anxiety and depression have been identified, which require further exploration. However, the extent to which the use of social media impacts the public is yet to be determined.

Methods: Staff used the <u>search strategy</u> developed by Frost and Rickwood (2017) to locate relevant articles from the publication date of the article to the present. 3,092 articles were identified through that search strategy. Staff performed a title and abstract review following the <u>Methods Manual for Community Guide Systematic Reviews</u> (Community Preventive Services Task Force). This process lead to identification of 26 articles that met the inclusion criteria. Since this was a rapid review of the literature, a full article review was not performed. However, the following list presents a summary of the literature from 2018-2021 to supplement Frost and Rickwood (2017) and Marino (2018).

Results: The following 26 articles met inclusion criteria and summarize the latest research as presented in the peer-reviewed literature.

Shah J, Das P, Muthaiah N, Milanaik R. <u>New age technology and social media: adolescent psychosocial implications and the need for protective measures</u>. *Curr Opin Pediatr*. 2019 Feb;31(1):148-156. doi: 10.1097/MOP.000000000000714.

Abstract. Purpose of review: In recent years, breakthroughs and advancements in new age technology have revolutionized the way children communicate and interact with the world around them. As social media platforms such as Facebook, Instagram, and Snapchat continue to grow in popularity, their usage has raised concerns about their role and impact on adolescent development and behavior. This review examines the psychosocial implications of social media usage on youth outcomes related to body image, socialization, and adolescent development. It discusses ways that clinicians and parents can effectively safeguard their children from the potential threats posed by digital media while providing a fact sheet for parents that addresses these concerns and summarizes recommended strategies to combat them. Recent findings: While social media platforms continue to experience surges in popularity, mounting evidence suggests significant correlations between their usage and adolescent mental health and behavioral issues. Increased social media usage has been linked to diminished self-esteem and body satisfaction, elevated risk of cyber-bullying, heightened exposure to pornographic material, and risky sexual behaviors.

Summary: Given how new age technology is steadily permeating everyday life, greater efforts are needed to inform adolescent users and their families about the negative consequences of social media usage. Pediatricians and parents must take cautionary measures to reduce psychosocial risks and ensure the online safety of children. Full text here.

Cataldo I, Lepri B, Yee Neoh MJ, Esposito G. <u>Social Media Usage and Development of Psychiatric Disorders in Childhood and Adolescence: A Review</u>. *Front Psychiatry*. 2021 Jan 13;11:508595. doi: 10.3389/fpsyt.2020.508595. eCollection 2020.

Abstract. SNS are now part of almost everyone's social life, especially for the newer generations. Children and teenagers grew up together with these Internet-based services, which have become an integral part of their personal and social life. However, as reported in various studies, psychological and psychiatric problems are sometimes associated with problematic usage of social media. The primary purpose of this review is to provide an overview of the cognitive, psychological, and social outcomes correlated with a problematic use of social media sites during the developmental stages, from age 10 to 19 years. With a specific focus on depression, anxiety, eating, and neurodevelopmental disorders, the review also discusses evidence related to genetic and neurobiological issues, together with the implications in clinical work and future directions under a multidisciplinary perspective. While the scientific community has made significant progress in enhancing our understanding of the impact of social media on teenagers' lives, more research integrating biological and environmental factors is required to fully elucidate the development of these disorders. Full text here.

Marino C, Gini G, Vieno A, Spada MM. <u>The associations between problematic Facebook use,</u> psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *J Affect Disord.* 2018 Jan 15;226:274-281. doi: 10.1016/j.jad.2017.10.007.

<u>Abstract</u>. *Background:* A growing body of research has analyzed the potential risks of problematic Facebook use for mental health and well-being. The current meta-analysis is the first to examine the associations between problematic Facebook use, psychological distress (i.e., depression, anxiety, etc.) and well-being (life satisfaction, positive mental health) among adolescents and young adults. *Methods:* A comprehensive search strategy identified relevant studies in PsychInfo, Pubmed, Scopus, ResearchGate, and Google Scholar.

Results: The final sample included 23 samples with a total of 13,929 participants (60.7% females; M_{age} = 21.93, range: 16.5-32.4). Results of random effects meta-analysis confirmed a positive correlation between problematic Facebook use and psychological distress (r = .34, 95% CI [.28, .39]). Moderation analysis revealed that effect sizes were larger in older samples. Moreover, a negative correlation between problematic Facebook use and well-being was observed (r = -.22, 95% CI [-.28, -.15]). **Limitations:** All available studies used a cross-sectional design thus hampering the possibility to establish the direction of the association between problematic Facebook use and psychological distress and well-being.

Conclusions: Results are discussed within the extant literature on problematic Facebook use and future research directions are proposed. This research may also inform clinical and prevention interventions on problematic Facebook use. Full text here.

Ivie EJ, Pettitt A, Moses LJ, Allen NB. <u>A meta-analysis of the association between adolescent social media use and depressive symptoms</u>. *J Affect Disord*. 2020 Oct 1;275:165-174. doi: 10.1016/j.jad.2020.06.014. Epub 2020 Jun 24.

<u>Abstract</u>. *Background*: The association of adolescent social media use with mental health symptoms, especially depression, has recently attracted a great deal of interest in public media as well as the scientific community. Some studies have cited statistically significant associations between adolescent social media use and depression and have proposed that parents must regulate their adolescents' social media use in order to protect their mental health.

Methods: In order to rigorously assess the size of the effect that has been reported in the current scientific literature, we conducted a meta-analysis of studies that measured the association between social media use specifically and depressive symptoms amongst early- to mid- adolescents.

Results: We found a small but significant positive correlation (k=12 studies, r=.11, p<.01) between adolescent social media use and depressive symptoms. There was also high heterogeneity (I²=95.22%) indicating substantial variation among studies.

Conclusions: High heterogeneity along with the small overall effect size observed in the relationship between self-reported social media use and depressive symptoms suggests that other factors are likely to act as significant moderators of the relationship. We suggest that future research should be focused on understanding which types of use may be harmful (or helpful) to mental health, rather than focusing on overall use measures that likely reflect highly heterogeneous exposures.

Griffiths S, Murray SB, Krug I, McLean SA. The Contribution of Social Media to Body Dissatisfaction, Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men. Cyberpsychol Behav Soc Netw. 2018 Mar;21(3):149-156. doi: 10.1089/cyber.2017.0375. Epub 2018 Jan 24.

Abstract. Social media has been associated with body dissatisfaction and eating disorder symptoms among young women and adolescent girls. However, despite notable evidence of susceptibility to body image pressures, it remains unknown whether these associations generalize to sexual minority men. A

nationwide sample of 2,733 sexual minority men completed an online survey advertised to Australian and New Zealand users of a popular dating app. Participants answered questions about how frequently they used 11 different social media platforms in addition to questions about their dating app use, body image, eating disorder symptoms, and anabolic steroids. Facebook, Youtube, Instagram, and Snapchat were the most frequently used social media platforms. A pattern of small-sized and positive associations emerged between social media use and body dissatisfaction, eating disorder symptoms, and thoughts about using anabolic steroids. Facebook, Instagram, and Snapchat evidenced the strongest associations. The associations of social media use with both muscularity dissatisfaction and eating disorder symptoms were stronger for image-centric social media platforms (e.g., Instagram) than nonimage-centric platforms (e.g., Wordpress); no differences were observed for body fat dissatisfaction, height dissatisfaction, or thoughts about using anabolic steroids. Previously documented associations of social media use with body dissatisfaction and related variables among women and girls appear to generalize to sexual minority men. Social media platforms that more centrally involve imagery may be of greater concern than nonimage-centric platforms. Additional research with sexual minority men is needed to elucidate the distinctions between adaptive and maladaptive social media use in the context of body dissatisfaction, eating disorders, and anabolic steroid use. Full text <u>here.</u>

Brailovskaia J, Schillack H, Margraf J. Facebook Addiction Disorder in Germany. Cyberpsychol Behav Soc Netw. 2018 Jul;21(7):450-456. doi: 10.1089/cyber.2018.0140.

Abstract. This study explored the Facebook addiction disorder (FAD) in Germany. Of the 520 participants, 6.2 percent reached the critical polythetic cutoff score and 2.5 percent reached the critical monothetic cutoff score. FAD was significantly positively related to Facebook use frequency, the personality trait narcissism, as well as depression and anxiety symptoms, but also to subjective happiness. Its association with resilience was significantly negative. Furthermore, Facebook use frequency partly mediated the positive relationship between narcissism and FAD. Current results provide a first overview of FAD in Germany. They demonstrate that FAD is not only the consequence of excessive Facebook use. The positive relationship between FAD and happiness contributes to the understanding of the mechanisms that are involved in the development and maintenance of FAD, and partly explains earlier inconsistencies. Practical applications for future studies and limitations of present results are discussed. Full text here.

Yoon S, Kleinman M, Mertz J, Brannick M. <u>Is social network site usage related to depression? A meta-analysis of Facebook-depression relations</u>. *J Affect Disord*. 2019 Apr 1;248:65-72. doi: 10.1016/j.jad.2019.01.026. Epub 2019 Jan 27.

<u>Abstract</u>. *Background*: Facebook depression is defined as feeling depressed upon too much exposure to Social networking sites (SNS). Researchers have argued that upward social comparisons made on SNS are the key to the Facebook depression phenomenon. To examine the relations between SNS usage and depression, we conducted 4 separate meta-analyses relating depression to: (1) time spent on SNS, (2) SNS checking frequency, (3) general and (4) upward social comparisons on SNS. We compared the four mean effect sizes in terms of magnitude.

Methods: Our literature search yielded 33 articles with a sample of 15,881 for time spent on SNS, 12 articles with a sample of 8041 for SNS checking frequency, and 5 articles with a sample of 1715 and 2298 for the general and the upward social comparison analyses, respectively.

Results: In both SNS-usage analyses, greater time spent on SNS and frequency of checking SNS were associated with higher levels of depression with a small effect size. Further, higher levels of depression were associated with greater general social comparisons on SNS with a small to medium effect, and greater upward social comparisons on SNS with a medium effect. Both social comparisons on SNS were more strongly related to depression than was time spent on SNS.

Limitations: Limitations include heterogeneity in effect sizes and a small number of samples for social comparison analyses.

Conclusions: Our results are consistent with the notion of 'Facebook depression phenomenon' and with the theoretical importance of social comparisons as an explanation. Full text <u>here</u>.

Marino C, Marci T, Ferrante L, Altoè G, Vieno A, Simonelli A, Caselli G, Spada MM. <u>Attachment and problematic Facebook use in adolescents: The mediating role of metacognitions</u>. *J Behav Addict*. 2019 Mar 1;8(1):63-78. doi: 10.1556/2006.8.2019.07. Epub 2019 Mar 31.

<u>Abstract</u>. *Background and aims*: Recent research used attachment theory and the metacognitive tenet as frameworks to explain problematic Facebook use (PFU). This study aims to test, in a single model, the role of different attachment styles and metacognitions in PFU among adolescents.

Methods: Two separate studies were conducted in order to establish the link between security (Study 1) and insecurity (Study 2), metacognitions, and PFU. A total of 369 and 442 Italian adolescents (age: 14-20 years old) participated in Study 1 and Study 2, respectively.

Results: Path analyses revealed the relative importance of different attachment dimensions with mother and father in predicting PFU and the mediating role of metacognitions between attachment styles and PFU. **Discussion and conclusion:** In conclusion, since attachment styles and PFU may significantly affect adolescents' development and well-being, the results of this study may provide some practical indications for researchers and practitioners. Full text here.

Ilakkuvan V, Johnson A, Villanti AC, Evans WD, Turner M. <u>Patterns of Social Media Use and Their Relationship to Health Risks Among Young Adults</u>. *J Adolesc Health*. 2019 Feb;64(2):158-164. doi: 10.1016/j.jadohealth.2018.06.025. Epub 2018 Sep 27.

<u>Abstract</u>. *Purpose*: Social media use is pervasive among young adults, and different sites have different purposes, features, and audiences. This study identified classes of young adults based on what combination of sites they use and how frequently, and compared their health risk factors and behaviors. **Methods**: Latent profile models were developed based on frequency of using 10 sites from a national sample of young adults aged 18-24 years (n = 1,062). Bivariate analyses and multivariable regressions examined the relationship between class membership and alcohol, tobacco, and other drug (ATOD) use, and symptoms of depression and anxiety.

Results: The optimal model identified five classes: Low Users (7.9%), High Users (63.1%), Professional Users - high use of LinkedIn (10.1%), Creative Users - high use of Vine and TumbIr (11.5%), and Mainstream Users - high use of Facebook and YouTube (7.4%). Classes differed significantly on ATOD use and depressive symptoms. Compared to High Users, Creative Users had higher odds of using most substances and lower odds of depressive symptoms, Mainstream Users had higher odds of substances used socially (alcohol and hookah), Professional Users had higher odds of using alcohol, cigarettes, and cigars, and Low Users had higher odds of using other drugs (e.g., cocaine and heroin).

Conclusions: A young adult's social media site use profile is associated with ATOD use and depressive symptoms. Use and co-use of certain sites may influence the volume and nature of ATOD-related content and norms young adults experience in social media. Targeting interventions to sites selected based on use patterns associated with each health risk may be effective. Full text here

Limniou M, Ascroft Y, McLean S. <u>Differences between Facebook and Instagram Usage in Regard to Problematic Use and Well-Being</u>. *J Technol Behav Sci.* 2021 Oct 13;1-10. doi: 10.1007/s41347-021-00229-z. <u>Abstract</u>. Although the association of well-being (e.g., self-esteem, depression symptoms, and loneliness) with Facebook usage (i.e., number of friends and frequency of use) has been investigated by many researchers, only a limited number of studies have scrutinized Facebook against Instagram use. The aim of this study is not only to address this literature gap but also to explore whether problematic

use and well-being differ between Facebook and Instagram users in relation to the number of received "likes" and Facebook friends/Instagram followers, as well as the importance of these "likes" and friends/followers. Sixty-nine Facebook users and 66 Instagram users completed an online questionnaire, including self-esteem, loneliness, depression, and problematic Internet use items. Overall, Instagram users exhibited significantly higher problematic use behaviour compared to Facebook users. Age and importance of "followers" were negatively associated with problematic use of Instagram, whilst only the importance of "likes" was negatively associated with Facebook. The number of Facebook "friends" was positively associated with depressive symptoms, but this was not the case for the number of Instagram "followers". It is important to note that the number of "likes" was only negatively associated with self-esteem, but there was no association with loneliness. A potential explanation between the differences in the two platforms and well-being might be related to their different functionalities, for example, Instagram is an image-oriented platform that may boost users' self-esteem through post "likes" but only when the users are strongly connected. Full text here.

Brailovskaia J, Rohmann E, Bierhoff H, Schillack, Margraf J. <u>The relationship between daily stress, social support and Facebook Addiction Disorder</u>. *Psychiatry Res.* 2019 Jun;276:167-174. doi: 10.1016/j.psychres.2019.05.014. Epub 2019 May 9.

Abstract. The present study investigated the links between daily stress, social support, Facebook use, and Facebook Addiction Disorder (FAD). Two varieties of social support were considered, according to the communication channel: offline and online. In a sample of 309 Facebook users (age: M(SD) = 23.76(4.06), range: 18-56), daily stress was positively related to the intensity of Facebook use and to tendencies towards Facebook addiction. The link between daily stress and intensity of Facebook use was negatively moderated by perceived offline social support, indicating that individuals who received low levels of support offline were particularly likely to increase their Facebook use at higher levels of daily stress. Perceived online social support partly mediated the positive relationship between Facebook use intensity and tendencies towards FAD. It is remarkable that Facebook use intensity is systematically related to both positive (i.e., receiving online social support) and negative (i.e., building up FAD) consequences. Thereby, individuals who receive high levels of social support online tend to be at risk for tendencies towards FAD. Thus, while offline social support might protect mental health, online support might influence it negatively. This should be considered when assessing individuals at risk for obsessive Facebook use and when planning interventions to deal with FAD. Full text here.

Wright EJ, White KM, Obst PL. Facebook False Self-Presentation Behaviors and Negative Mental Health [pubmed.ncbi.nlm.nih.gov]. Cyberpsychol Behav Soc Netw. 2018 Jan;21(1):40-49. doi: 10.1089/cyber.2016.0647. Epub 2017 Oct 20.

Abstract. As research examining what constitutes Facebook false self-presentation is lacking, the aim of this study was to develop a preliminary inventory of Facebook false self-presentation behaviors, as well as identify predictors and possible outcomes. Participants (N = 211) completed questions regarding frequency of engagement in Facebook false self-presentation behaviors, as well as self-esteem, social influences, motivation strategies, well-being, depression, anxiety, and stress. Results indicated the presence of two distinct false self-presentation behaviors: lying (e.g., untruthful status updates, profile creation) and liking behaviors (e.g., liking posts dishonestly), each associated with different predictors and outcomes. Results indicated that moral norms significantly predicted lying behaviors; and age, self-esteem, group norms, and moral norms significantly predicted liking behaviors. Unexpectedly, liking behaviors were associated with depression, anxiety, and stress, whereas lying behaviors were related to anxiety only. Findings highlight associations between online self-presentation strategies, in particular liking behaviors, on Facebook and possible offline negative mental health. Full text here.

Primi C, Fioravanti G, Casale S, Donati MA. Measuring Problematic Facebook Use among Adolescents and Young Adults with the Bergen Facebook Addiction Scale: A Psychometric Analysis by Applying Item Response Theory. Int J Environ Res Public Health. 2021 Mar 14;18(6):2979. doi: 10.3390/ijerph18062979.

Abstract. The Bergen Facebook Addiction Scale (BFAS) is widely used, but psychometric evidence by applying Item Response Theory (IRT) is lacking. Considering the advantages of this psychometric approach, the aim of study was to investigate the psychometric properties of the Italian version of the BFAS among adolescents and young adults. Participants were 1134 (50% males, Mean age = 20.7, SD = 3.5, range = 14-33 years) Italian high school students and undergraduates. The unidimensionality of the scale was confirmed ($\chi^2/df = 2.8$, CFI = 0.99, TLI = 0.98, and RMSEA = 0.04 [C.I. = 0.02-0.06]) and IRT analysis showed that the scale assesses medium and high levels of the trait, and that it is useful in order to discriminate different levels of Problematic Facebook use (PFU) within this range of trait, in which the scale is sufficiently informative. The relationships of BFAS ϑ scores with theoretically related constructs provided support to the validity of the scale. In accordance with previous studies, BFAS scores were positively correlated with Problematic Internet use and problematic Social Network use, negatively correlated with self-esteem, and positively related to loneliness. The Differential Item Functioning (DIF) analysis showed that BFAS is invariant across gender, and only one item had uniform and small-in-size DIF. Additionally, we tested age invariance. Since only 17% of the BFAS items were non-invariant, we determined that the BFAS exhibited minor non-invariance as a whole. An analysis of the adequacy of the polythetic and monothetic criteria to define the range of the trait indicative of problematic use was also conducted. Overall, this study offers evidence that BFAS is a valuable and useful scale for measuring high levels of PFU among Italian adolescents and young adults. Full text here.

Marino C, Mazzieri E, Caselli G, Vieno A, Spada MM. Motives to use Facebook and problematic Facebook use in adolescents. *J Behav Addict*. 2018 Jun 1;7(2):276-283. doi: 10.1556/2006.7.2018.32. Abstract. Background and aims There is a growing body of evidence suggesting that problematic Facebook use (PFU) is an emerging problem, particularly among adolescents. Although a number of motivations explaining why people engage in frequent Facebook use have been identified, less is known about the specific psychological needs underlying PFU. The aim of this study is to test a model designed to assess the unique contribution of psychological motives for using Facebook to the different PFU dimensions in a sample of adolescents. Methods A total of 864 Italian adolescents participated in the study. Multivariate multiple regression was run to test whether the four motives were differently associated with problematic dimensions. Results The results showed that the two motives with negative valence (coping and conformity) were significantly linked to the five dimensions of PFU, whereas the two motives with positive valence (enhancement and social) appeared to be weaker predictors for three out of these five dimensions. Discussion and conclusion In conclusion, psychological motives for using Facebook appeared to significantly contribute to explaining PFU among adolescents, and should be considered by researchers and educational practitioners. Full text here.

Stieger S. <u>Facebook Usage and Life Satisfaction</u>. *Front Psychol.* 2019 Nov 29;10:2711. doi: 10.3389/fpsyg.2019.02711. eCollection 2019.

Abstract. Social networking sites (SNS), such as Facebook, attract millions of users worldwide by offering highly interactive social communications. Although this has many advantages, previous research has suggested there are also drawbacks (e.g., stalking, addiction, invasion of privacy). The question, therefore, arises as to whether Facebook - currently the largest social network - makes us more satisfied with our lives. In two independent samples (Study 1: N = 2,272; Study 2: N = 1,459), Facebook users were neither more satisfied with their lives compared to non-Facebook users, nor were Facebook users with more online friends more satisfied compared to those with fewer online friends. On the contrary,

Facebook usage duration was negatively associated with life satisfaction, even after controlling for age and sex differences. Although in general positive effects would have been expected because Facebook should enhance possibilities for social communication and connection, either null-finding or negative associations were found. Results are discussed in light of possible addiction-supporting features of Facebook, which are reflected in Facebook usage patterns (e.g., higher mean duration of Facebook usage per week, larger number of logins to Facebook). Full text <a href="https://example.com/hereal/beauto-supporting-features-f

Islam MR, Jannath S, Moona AA, Akter S, Hossain MJ, Islam SMA. <u>Association between the use of social networking sites and mental health of young generation in Bangladesh: A cross-sectional study.</u>

Abstract. The social networking sites (SNS) are popular among people of all levels. Here we aimed to evaluate the relationship between the use of SNS and the mental health of the young generation in Bangladesh. We conducted this cross-sectional study among 791 subjects aged between 15 and 40 years. Self-reported questionnaires were used to collect demographics and SNS usage patterns of the respondents. We have measured the levels of loneliness, depression, generalized anxiety, and sleep disturbance using the recommended mental health assessment scales. The estimations of loneliness, depression, generalized anxiety, and sleep disturbance among the respondents were 64%, 38%, 63%, and 75%, respectively. Young adults, female sex, unmarried individuals, students, and urban residents reported higher psychological issues regarding the SNS use. Reported mental health issues were associated with time spent in SNS, the number of friends and groups connected with, personal beliefs, and feeling about SNS. A notable association between the use of SNS and the mental health issues of users has been ascertained. The present study findings might have significant implications in the field of clinical psychology and psychotherapy. Therefore, we recommend more comprehensive clinical interventions to find the tangible impact of SNS on the mental health of users. Full text here

Iovu M, Runcan R, Runcan P, Andrioni F. <u>Association between Facebook Use, Depression and Family Satisfaction: A Cross-Sectional Study of Romanian Youth</u>. *Iran J Public Health*. 2020 Nov;49(11):2111-2119. doi: 10.18502/jjph.v49i11.4728.

Abstract. Background: In recent years, Facebook has increasingly become an essential part of the lives of people, particularly youths, thus many research efforts have been focused on investigating the potential connection between social networking and mental health issues. This study aimed to examine the relationship between Facebook use, emotional state of depression, and family satisfaction.

Methods: This study used the online survey created in Google Docs on the Facebook 'wall', as research method. The survey was available during Jun-Jul 2015 in Romania. In our cross-sectional study on a sample of 708 young Facebook users (aged 13-35), we divided the sample into 3 groups: ordinary, middle, and intense Facebook users. Materials and instruments: the survey comprised a series of basic demographic as well as some measures of Facebook addiction, depression, and family satisfaction. We used two methods connected with extensive Facebook usage, the first one measuring only the intensity of use, and the second one measuring not only the intensity but also the consequences of this use.

Results: Facebook engagement is negatively related to family satisfaction. Moreover, Facebook engagement is positively related to depression symptoms. The Pearson correlations showed that higher Facebook intensity is positively associated with Facebook addiction.

Conclusion: The study confirms previously published findings of other authors in the fields of social networking psychology. The study examined the relationship between Facebook use, depression, and life satisfaction and the hypotheses were supported. Full text here.

Przepiorka A, Blachnio A. <u>The Role of Facebook Intrusion, Depression, and Future Time Perspective in Sleep Problems Among Adolescents</u>. *J Res Adolesc.* 2020 Jun;30(2):559-569. doi: 10.1111/jora.12543. Epub 2019 Dec 23.

Abstract. The main aim of the study was to examine the determinants of sleep problems including Facebook intrusion, depression, and future time perspective. The participants were 426 adolescents, aged M = 14.68. The Future Time Perspective Scale, the Center for Epidemiologic Studies Depression Scale, the Facebook Intrusion Questionnaire, and the Medical Outcomes Study Sleep Scale were used. It was found that FTP goals were a negative predictor of Facebook intrusion and depression was a positive predictor of Facebook intrusion and sleep problems. Additionally, Facebook intrusion turned out to contribute positively to sleep problems. The results contribute to knowledge on excessive social media use and its relations with mental health; they can be applied in the treatment of addictive social media use.

Muzaffar N, Brito EB, Fogel J, Fagan D, Kumar K, Verma R. <u>The Association of Adolescent Facebook</u>
<u>Behaviours with Symptoms of Social Anxiety, Generalized Anxiety, and Depression</u>. *J Can Acad Child*<u>Adolesc Psychiatry</u>. 2018 Nov;27(4):252-260. Epub 2018 Nov 1.

<u>Abstract</u>. *Objective:* Social media use and especially Facebook use is highly prevalent among adolescents. We study the association of symptoms of social anxiety, generalized anxiety, and depression with behaviours performed by adolescents when logged onto Facebook.

Methods: We surveyed 102 adolescents about social anxiety symptoms using the Leibowitz Social Anxiety Scale for Children and Adolescents and symptoms of generalized anxiety, depression, and general distress using the Mini Mood and Anxiety Symptom Questionnaire. We created a comprehensive Facebook behaviour scale and a Facebook behaviour repetitive scale to measure extent of engagement on Facebook. Multivariate linear regression analyses were used to study predictors from demographics, Facebook characteristics, and symptoms of social anxiety, generalized anxiety, and depression to the outcomes of Facebook behaviour and Facebook repetitive behaviour.

Results: We found that increased total number of Facebook friends, increased time spent per day on Facebook, and increased anxious arousal symptoms were each significantly associated with increased Facebook behaviour and increased repetitive Facebook behaviour. Social anxiety symptoms, depressive symptoms, and general distress were each not associated with Facebook behaviour and repetitive Facebook behaviour.

Conclusions: Increased adolescent generalized anxiety symptoms were associated with increased Facebook behaviour and repetitive Facebook behaviour. As adolescent Facebook use is quite prevalent, mental health and primary care health professionals should inquire about adolescent Facebook use and behaviours, particularly when treating those with generalized anxiety symptoms. Full text here.

Mamun MAA, Griffiths MD. <u>The association between Facebook addiction and depression: A pilot survey study among Bangladeshi students</u>. *Psychiatry Res.* 2019 Jan; 271:628-633. doi: 10.1016/j.psychres.2018.12.039. Epub 2018 Dec 6.

Abstract. Social media addiction has become an area of increasing research interest over the past few years. However, there has been no previous research on social media addiction in Bangladesh. The present pilot study is the first ever in Bangladesh to examine the relationship between one specific form of social media addiction (i.e., 'Facebook addiction') and its associated predictors. This present study comprised 300 students from the University of Dhaka (Bangladesh) who participated in a survey that included questions relating to socio-demographics, health and behavioral measures, and the Bergen Facebook Addiction Scale (BFAS), and the nine-item Patient Health Questionnaire (PHQ9). The prevalence of FA was 39.7% (cutoff score was ≥18 on the BFAS). Using a regression analysis, the risk of being addicted to Facebook was predicted by being single, having less involvement in physical activities, sleep disturbance (more or less than 6 to 7 h of sleep), time spent on Facebook (≥5 h per day), and

depression symptoms. Based on the sample in the present study, the risk of Facebook addiction (as assessed using the BFAS) appears to be a significant issue among Bangladeshi students, and depression to be one of the main comorbid factors. Full text here.

Donati MA, Beccari C, Primi C. <u>Boredom and problematic Facebook use in adolescents: What is the relationship considering trait or state boredom?</u> *Addict Behav.* 2022 Feb;125:107132. doi: 10.1016/j.addbeh.2021.107132. Epub 2021 Oct 6.

Abstract. Boredom is an unpleasant experience caused by the lack of being engaged in satisfying activities. It can be caused by external circumstances (state boredom, SB) or by individual determinants (trait boredom, TB). Although several studies have attested the impact of boredom on adolescents' risk-taking behaviours, the relationships between boredom and problematic Facebook use (PFU), which has grown exponentially among adolescents, have not been deeply analysed to date. This study aimed at exploring a possible mechanism through which TB, PFU, and SB are related. We hypothesised and tested the mediating role of PFU in the relationship between TB and SB. Participants were 204 Italian adolescents (57% male, Mage = 17.13, SD = 1.61). Analyses showed a significant positive indirect effect of TB on SB through PFU that acted as a mediator. Specifically, individual sensitivity to boredom may enhance the likelihood that teenagers employ Facebook excessively and in addictive way; in turn, PFU may enhance adolescents' situational experience of boredom. Although preliminary, findings indicate the need to further investigate the relationship between TB, PFU, and SB in youth. Full text here.

Uram P, Skalski S. <u>Still Logged in? The Link Between Facebook Addiction, FoMO, Self-Esteem, Life Satisfaction and Loneliness in Social Media Users</u>. *Psychol Rep.* 2022 Feb;125(1):218-231. doi: 10.1177/0033294120980970. Epub 2020 Dec 10.

<u>Abstract</u>. Studies to date have shown that fear of missing out (FoMO) is related to the lack of fulfilling one's psychological needs. Moreover, it affects one's involvement in social media. The objective of this study was to assess the links between satisfaction with life (the Satisfaction with Life Scale), self-esteem (the Rosenberg Self-esteem Scale), loneliness (the de Jong Gierveld Loneliness Scale), FoMO (the Fear of Missing Out Scale) and Facebook addiction (the Bergen Facebook Addiction Scale). The study involved 309 individuals aged 18-70 (M = 25.11, SD = 5.86). The results of analyses carried out using structural equation modeling have revealed that FoMO combines deficits in mental well-being with addiction to Facebook. The presented results are discussed also in the context of the intermediary role of self-esteem in the link between life satisfaction and loneliness versus FoMO. Full text link.

Wilksch SM, O'Shea A, Ho P, Byrne S, Wade TD. <u>The relationship between social media use and disordered eating in young adolescents</u>. *Int J Eat Disord*. 2020 Jan;53(1):96-106. doi: 10.1002/eat.23198. Epub 2019 Dec 3.

<u>Abstract</u>. *Background:* The relationship between social media (SM) use and disordered eating (DE) has not been adequately explored in young adolescents.

Methods: Data from 996 Grade 7 and 8 adolescents (n = 534 girls; M age = 13.08) was investigated. DE cognitions (Eating Disorder Examination-Questionnaire [EDE-Q]), DE behaviors (Project Eating Among Teens), and SM use measures related to Facebook, Instagram, Snapchat, and Tumblr were completed. **Results:** DE behaviors were reported by 51.7% of girls and 45.0% of boys, with strict exercise and meal skipping the most common. A total of 75.4% of girls and 69.9% of boys had at least one SM account where Instagram was the most common, used by 68.1% of girls and 61.7% of boys. Global EDE-Q scores were significantly higher for girls and boys with each type of SM account, except for Facebook and Instagram for girls. A greater number of SM accounts was associated with higher DE scores for both cognitions and behaviors. Girls with Snapchat and Tumblr accounts and boys with Snapchat, Facebook and Instagram were significantly more likely to have both DE behaviors and over-evaluation of shape

and weight in the clinical range. Greater daily time spent using Instagram was associated with significantly higher Global EDE-Q scores and DE behaviors for girls, while this pattern was also found for Snapchat usage and DE behaviors for girls.

Conclusions: A clear pattern of association was found between SM usage and DE cognitions and behaviors with this exploratory study confirming that these relationships occur at younger-age than previously investigated. Full text link

Moreno MA, Mercer L, Young HN, Cox ED, Ker B. <u>Testing Young Adults' Reactions to Facebook Cues and Their Associations with Alcohol Use</u>. *Subst Use Misuse*. 2019;54(9):1450-1460. doi: 10.1080/10826084.2019.1585458. Epub 2019 Mar 31.

Abstract. Background: Alcohol cues on social media may influence young adults' drinking patterns, these cues may be pro-social or pro-alcohol in nature. The influence of individual Facebook cues on young adults' drinking intentions and behaviors remains unknown. Objectives: The purpose of this study was to assess how Facebook cues influence intention to drink, and how intention was associated with Theory of Reasoned Action constructs including alcohol-related attitudes and norms, and future behavior. Methods: Incoming university students completed a pre-college and a 2-year follow-up phone interview. A vignette presented individual Facebook cues representing "pro-social" or "pro-alcohol" sentiments. Participants indicated intention to drink alcohol and their rationale for this intention after each cue. Additional measures included TRA constructs of alcohol-related attitudes and norms, and problem alcohol use. Analyses included a qualitative approach to examine rationales for intention to drink in response to Facebook cues, and linear mixed effects models. Results: Of 338 participants, 56.1% were female, 74.8% were Caucasian. Alcohol-related attitudes and norms were positively associated with intention to drink in response to pro-social and pro-alcohol Facebook cues. Participants' intention to drink in response to pro-alcohol cues was positively associated with problem alcohol use two years later. Conclusions/importance: Findings illuminate the influence of social media on alcohol-related behaviors and highlight potential future screening approaches. Full text here.

Marengo D, Axucar D, Giannotta F, Basile V, Settanni M. Exploring the association between problem drinking and language use on Facebook in young adults [pubmed.ncbi.nlm.nih.gov]. Heliyon. 2019 Oct 9;5(10):e02523. doi: 10.1016/j.heliyon.2019.e02523. eCollection 2019 Oct.

Abstract. Recent literature suggests that variations in both formal and content aspects of texts shared on social media tend to reflect user-level differences in demographic, psychosocial, and behavioral characteristics. In the present study, we examined associations between language use on Facebook and problematic alcohol use. We collected texts shared on Facebook by a sample of 296 adult social media users (66.9% females; mean age = 28.44 years (SD = 7.38)). Texts were mined using the closedvocabulary approach based on the Linguistic Inquiry Word Count (LIWC) semantic dictionary, and an open-vocabulary approach performed via Latent Dirichlet Allocation (LDA). Then, we examined associations between emerging textual features and alcohol-drinking scores as assessed using the AUDIT-C questionnaire. As a final aim, we employed the Random Forest machine-learning algorithm to determine and compare the predictive accuracy of closed- and open-vocabulary features over users' AUDIT-C scores. We found use of words about family, school, and positive feelings and emotions to be negatively associated with alcohol use and problematic drinking, while words suggesting interest in sport events, politics and economics, nightlife, and use of coarse language were more frequent among problematic drinkers. Results coming from LIWC and LDA analyses were quite similar, but LDA added information that could not be retrieved only with LIWC analysis. Furthermore, open-vocabulary features outperformed closed-vocabulary features in terms of predictive power over participants' AUDIT-C scores (r = .46 vs. r = .28, respectively). Emerging relationships between text features and offline behaviors may have important implications for alcohol screening purposes in the online environment. Full text here.

Vogel EA, Ramo DE, Prochaska JJ, Meacham MC, LaytonFJ, Humfleet GL. <u>Problematic Social Media Use in Sexual and Gender Minority Young Adults: Observational Study</u>. *JMIR Ment Health*. 2021 May 28;8(5):e23688. doi: 10.2196/23688.

<u>Abstract</u>. *Background:* Sexual and gender minority (SGM) individuals experience minority stress, especially when they lack social support. SGM young adults may turn to social media in search of a supportive community; however, social media use can become problematic when it interferes with functioning. Problematic social media use may be associated with experiences of minority stress among SGM young adults.

Objective: The objective of this study is to examine the associations among social media use, SGM-related internalized stigma, emotional social support, and depressive symptoms in SGM young adults. Methods: Participants were SGM young adults who were regular (≥4 days per week) social media users (N=302) and had enrolled in Facebook smoking cessation interventions. As part of a baseline assessment, participants self-reported problematic social media use (characterized by salience, tolerance, and withdrawal-like experiences; adapted from the Facebook Addiction Scale), hours of social media use per week, internalized SGM stigma, perceived emotional social support, and depressive symptoms. Pearson correlations tested bivariate associations among problematic social media use, hours of social media use, internalized SGM stigma, perceived emotional social support, and depressive symptoms. Multiple linear regression examined the associations between the aforementioned variables and problematic social media use and was adjusted for gender identity.

Results: A total of 302 SGM young adults were included in the analyses (assigned female at birth: 218/302, 72.2%; non-Hispanic White: 188/302, 62.3%; age: mean 21.9 years, SD 2.2 years). The sexual identity composition of the sample was 59.3% (179/302) bisexual and/or pansexual, 17.2% (52/302) gay, 16.9% (51/302) lesbian, and 6.6% (20/302) other. The gender identity composition of the sample was 61.3% (185/302) cisgender; 24.2% (73/302) genderqueer, fluid, nonbinary, or other; and 14.6% (44/302) transgender. Problematic social media use averaged 2.53 (SD 0.94) on a 5-point scale, with a median of 17 hours of social media use per week (approximately 2.5 h per day). Participants with greater problematic social media use had greater internalized SGM stigma (r=0.22; P<.001) and depressive symptoms (r=0.22; P<.001) and lower perceived emotional social support (r=-0.15; P=.007). Greater internalized SGM stigma remained was significantly associated with greater problematic social media use after accounting for the time spent on social media and other correlates (P<.001). In addition, participants with greater depressive symptoms had marginally greater problematic social media use (P=.05). In sum, signs of problematic social media use were more likely to occur among SGM young adults who had internalized SGM stigma and depressive symptoms.

Conclusions: Taken together, problematic social media use among SGM young adults was associated with negative psychological experiences, including internalized stigma, low social support, and depressive symptoms. SGM young adults experiencing minority stress may be at risk for problematic social media use. Full text here.

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