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Social media as an incubator of personality and behavioral psychopathology: Symptom and disorder authenticity or psychosomatic social contagion?

ABSTRACT

There has been an increasing recognition among both medical and psychological professionals, as well as the public media, of a concerning trend for child and adolescent users of audiovisual-based, algorithmic social media platforms (e.g., TikTok) to present with or claim functional psychiatric impairment that is inconsistent with or distinct from classic psychiatric nosology. In this short communication, we provide a detailed historical overview of this transdiagnostic phenomenon and suggest a conceptual model to organize thinking and research examining it. We then discuss the implications of our suggested model for accurate assessment, diagnosis, and medical-psychiatric treatment. We believe there is an urgent need for focused empirical research investigation into this concerning phenomenon that is related to the broader research and discourse examining social media influences on mental health.

The global burden of mental illness in children and youth is a leading cause of disability globally, accounting for ~13% of the total burden of disease in this age group [1,2]. Notably, this estimate excluded personality disorders given limited epidemiological data at the time, suggesting that the global burden of mental illness and children and youth is likely underestimated. There are robust sex differences in the expression of common clinical, personality, and behavioral traits and disorders, especially during adolescence (e.g., females:neuroticism and depressive/internalizing disorders and symptomatology; males:aggression and antisocial/externalizing disorders and symptomatology [3–12]). However, greater understanding of the overlap among their symptom expression and sex-linked prevalences, as well as their social and biological correlates is needed. Recent quantitative work examining their symptom overlap has enhanced insight into the transdiagnostic dimensional structure of common clinical and personality psychopathology [13–15].

At the same time that our understanding of transdiagnostic relations among common clinical and personality disorders and symptomatology has progressed, there has emerged an increasingly urgent need to understand the magnitude and developmental significance of social media use on mental health [16–18], especially during adolescence given it is a critical developmental window during which emotion regulation capacities are unfolding [12,16,17,19–22]. The urgency of this need has been magnified by the emergence of the COVID-19 pandemic which has been associated with increased social media use and perceived individual social isolation and psychological/psychiatric distress [23–28], including suicide-related mortality [29].

One social media site that has received increasing media and research scrutiny as a potential conduit or ‘spread vector’ for mental illness symptoms and disorders is TikTok [30–32]. There has been a well-documented uprise in popular content creators with self-described tics or Tourette’s Syndrome (TS) and other self-diagnosed mental health symptomatology on the TikTok platform [37,71] leading some to

characterize the phenomenon as “TikTok’s sick-role subculture” [30]. This uptick has coincided with increasing numbers of youth who have presented to clinical providers or psychiatric services during the COVID-19 pandemic with what have been termed functional tic-like behaviors (FTLBs) [31,33,34]. Similar phenomenon has also been recently chronicled with respect to dissociative identity disorder (DID) [35].

These more recent examples of mental health-related issues appearing with notable penetrance in the social media ecosystem have emerged within the context of a broader fusion and coalescence of individual self-diagnosis, including anxiety, depression, eating disorders, autism, and gender identity-related conditions on social media platforms, perhaps most notably on the social media site Tumblr during the first decade of the 2000s [36], but also Instagram and most recently on TikTok as well [37–39]. The continued evolution of this trend underscores an urgent need for increased understanding of the influence of social media on mental health, including its phenotypic clinical presentations and the possibility that increasingly algorithmic social media platforms may serve as a vehicle of transmission for social contagion of self-diagnosed mental illness conditions. Moreover, a greater understanding of the contributions of both personality and common clinical psychopathology to the ways in which social media platforms impact, facilitate, and ultimately inform the emerging debate about the definitions and contours of what is and is not considered mental ill-health is needed.

1. Audiovisually immersive social media: TikTok

TikTok was initially launched as a platform for users to post short clips of dancing, singing and comedy. The social media app launched in 2018 and had approximately one billion active monthly users worldwide by 2021. During the COVID-19 pandemic, this number increased. TikTok has a distinct algorithm, which allows users to receive content tailored to them, based on their preferences, interests and current state

Abbreviations: ADHD, Attention-Deficit/Hyperactivity Disorder; DID, Dissociative Identity Disorder; FTLB, Functional tic-like behaviors; MPD, Multiple Personality Disorder; NSSI, Non-suicidal self-Injury; OCD, Obsessive-Compulsive Disorder; TS, Tourette’s Syndrome.

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of mind. Depending on the length and type of interaction on a post, TikTok algorithms curate an audiovisually entertaining, sensory-immersive stream of personalized videos to their "For You" page.

User content on TikTok has evolved from the app's launch, with more content creators advocating for awareness surrounding issues such as feminism, mental illness, body positivity, disabilities, and gender identity. Notably, there have been many accounts that have received millions of views for their journey with their disability and/or mental illness, especially TS. These accounts have grown in popularity and their content has appeared to gain widespread traction as viewers engage with the content and learn how content creators perform everyday activities, while having tics that can largely affect their functionality in day-to-day life.

2. Before TikTok: Tumblr and the origins of online identity fandoms

Tumblr is a social media network that was founded in 2007, reaching peak user popularity in early 2014 based on the number of daily blog posts [36,40]. The creation of 'fandoms' (fans of a particular person, team, fictional series, etc. regarded collectively as a community or subculture) provided users who typically were seen as outcasts, a sense of community and belonging, as demonstrated by its company's mission statement; "Tumblr is a place to express yourself, discover yourself and bond over the stuff you love. It's where your interests connect you with your people" [40]. Journalist and internet historian Katherine Dee has written "Tumblr became a place for people to fantasize and build upon ideas about real identities. There was an aesthetic dimension, a dimension of roleplay, a feeling of camaraderie with others—but it was often pure fiction [41]." This identity element was also noted as a feature of social media more broadly: as Moreno et al. [39] noted "Social media also allow users to create online identities that may reflect their real identity or a newly-developing identity." Mental health content such as eating disorders and depression, along with numerous other common clinical mental disorders, were often disclosed on Tumblr [36]. Accounts promoting eating disorders, self-mutilation, and suicide became popular and with half of Tumblr's visitor base being under the age of 25, raising concern for the potentially deleterious effects of social media use on adolescent mental health. Tumblr implemented a policy against blogs of this nature in 2012. Similar issues also manifested on the social media platform Instagram where non-suicidal self-injury (NSSI) content and corresponding NSSI-related identities became a concern [39].

3. Personality and common clinical psychopathology: mental illness as identity-selection?

3.1. Tics, Tic DO, and Tourette's syndrome (TS)

An increasing number of reports from the US, UK, Germany, Canada and Australia have noted an increase in functional tic-like behaviors (FTLB) both prior to and during the COVID-19 pandemic, coinciding with an increase in social media content related to Tourette syndrome and tics [31–34,42–44]. These FTLBs differ from classic Tourette syndrome (TS) both neurotypically and phenotypically. Neurotypically, FTLB age of onset (typically 12–25 years) is later in development relative to classic TS with onset in early childhood and improvement of tic behavior in late adolescence. Phenotypically, FTLBs are characterized by an abrupt and explosive presentation of symptoms over hours or days of mostly complex phonic and motor tic-like behaviors with high severity, with many patients able to provide the exact date of onset or inciting event. In contrast to the rostro-caudal evolution of motor tic symptoms which develops over years in TS, FTLBs often predominantly affect the upper limbs, with complex movements of the arms and hands, including clapping, sign language, throwing objects, banging oneself on the chest, head or thigh, or hitting other people.

In TS, motor tics usually precede verbal tics, with the most common vocal tic being throat clearing, and less than 15% of those diagnosed with TS ever developing any complex vocalizations. In contrast, complex vocalizations are a prominent feature of FTLBs, including a large repertoire of random words, phrases, or offensive statements. Tourette's Syndrome is a highly prevalent disorder in youth, affecting approximately 1% of school-age boys and 0.25% of school-age girls [45]. The mean age onset of tic symptoms is approximately 6 years of age for both males and females as is the peak clinical presentation (when received at a specialist clinic) at 10 years of age. Some studies suggest there is a small but significant difference in tic severity between boys and girls, with girls having slightly more severe and more persistent tic symptoms with a higher resolution of tic symptoms in late teens for boys [46,47].

A large majority of those demonstrating FTLBs are adolescent females, which also forms a core user group of TikTok. Patients with FTLBs are also more commonly diagnosed with anxiety and depression, than those with TS which frequently co-occurs with neuropsychiatric conditions such as Attention-Deficit/Hyperactivity disorder (ADHD) and Obsessive-Compulsive Disorder (OCD) [33,34]. FTLBs are in keeping with a Functional Neurological Disorder in the context of anxiety and depressive symptoms and diagnoses, and more broadly with affective dysregulation. Many presenting to psychiatric clinics have also noted they have seen popular videos on Tourette's syndrome and have since started sharing the same tics [32].

3.2. Dissociative identity & other mental disorders

A similar phenomenon has been observed in individuals with self-diagnosed Dissociative Identity Disorder (DID) or adjacent quasi-psychiatric terms such as "person with Dissociated Identities" and "plurals" [35,48]. Indeed, the evolution of the online culture associated with DID or multiple personality disorder (MPD) has been richly chronicled [49]. The pluralist's online culture is an umbrella moniker that includes five distinct language identifiers regarding the etiology of Plurality defined by Plurals themselves including: (1) Traumagenic-Adaptive; (2) Traumagenic; (3) Traumagenic-Cultural; (4) Endogenic; and (5) Exogenic [35]. Notably, the endogenic and exogenic identifiers were identifiers created 'de-novo' and have no relation to empirical nomenclature. Based on these identifiers, three groups of plurals have been described. While the first two groups are related to conventional psychiatric clinical interpretations of and empirical research into DID (e. g., as potentially trauma-based), the third group is a pseudo-psychiatric group that includes those who identify as plurals but as not disordered [35].

Hashtags such as #DID, as well as #borderlinepersonalitydisorder and #bipolaridorder have received millions of views, and popular content creators post videos capturing them 'switching alters' (i.e., plurals). Impressions from both the lay public and clinical professionals have converged in the observation that a salient feature of this emerging DID and self-diagnosed mental illness social media posting and discourse is that it has a distinct appearance of being romanticized, glamourized, and sexualized (or possibly malingered) [48–52]. Accordingly, this may be one explanation for why many users claim to have 'rare' disorders like DID (with prevalence estimates ranging from 0.01% to 14% depending on sample characteristics and the methodology used to assess DID; especially among children the disorder is extremely rare [53–56]), as well as the emergence of a 'plurals community' for DID. Such plurals communities include non-traditional peri-psychiatric non-disordered notions of DID that community members have created on their own and are liberated from conventional psychiatric nosology. It has been noted that non-diagnosed (or undiagnosed) claims of DID can negatively impact others in the DID plurals community who have clinically diagnosed DID and are seeking functional reintegration as a therapy endpoint [35].

4. Diathesis-stress: an integrative model of vulnerability towards understanding social media, personality-identity confusion, and psychopathology

Although many social media users and online community members will be exposed to both media and community content that reflects peri-psychiatric conditions or self-diagnosed conditions, most will not adopt peri-psychiatric behaviors or conditions and/or seek professional clinical assistance. Indeed, positive effects of online social communities for coping with stress, relationship-building, and for enhancing feelings of belonging and shared experience among people experiencing mental illness, as well as other minority and marginalized groups, have been described [35,36,38,57,58]. What is needed in our view is an integrative explanatory framework for what places a seemingly increasing subset of individuals at-risk for or more vulnerable to adopting peri-psychiatric behaviors or conditions. The diathesis-stress model of individual differences to environmental context [59–62] provides an organizing heuristic to begin to develop such an explanatory framework. Classic diathesis-stress or vulnerability-stress models postulate that poor developmental experiences (e.g., stressful or resource-poor environments) are most likely to impact the development of individuals who carry vulnerability factors, which are latent diatheses that result in increased risk for psychopathology when “triggered” by exposure to negative or otherwise stressful developmental experiences. Latent diatheses reflect biological or social-cognitive predispositions to react and behave in specific ways; psychopathology reflects signs, symptoms, and behaviors associated with mental illness or inconsistent with mental health in the normative range. While not inherently stressful per se, the social media environment is a relatively novel environment in evolutionary history and the negotiation of social relationships through the scopic medium of increasingly algorithmic, audiovisual social media may pose a unique set of conditions that place individuals with latent diathesis to personality and behavioral psychopathology, particularly that defined by deficits in emotion regulation and negative emotionality (NE) [63], at increased risk for the development of psychopathology [19,36,64,65].

Relative to males, adolescent females are at higher risk for depressive and anxiety-related disorders [6], along with higher levels of negative emotionality and personality trait neuroticism [7,9]. Accordingly, one possibility in the case of ‘TikTok tics’ is that the functional purpose of FTLBs—which are disproportionately prevalent in females based on empirical data to date – is to seek affirmation and/or draw attention to oneself to acquire social capital in online communities [36,66] while simultaneously maintaining an unconventional peri-psychiatric identity that may mask feelings of anxiety, depression, and possibly lower self-esteem [19,30,67]. It is also plausible that the social stress and isolation due to the COVID-19 pandemic operated in a dual-risk capacity in addition to unique personality and behavioral factors associated with social media use and participation in online communities themselves [19,64,65,68]. In any event, what seems to be clearly indicated by the preliminary clinical, empirical, and journalistic information is that for a subset of predominately adolescent-aged female youth, use of audiovisual-based social media platforms such as Instagram and TikTok, especially at moderate and high levels, is associated with the manifestation and course of FTLBs, less self-reported levels of psychological well-being [69], increased internalizing symptomatology [70], and self-diagnosis of various mental illnesses [71]. With appropriate diagnosis and intervention, particularly identification and cognitive behavioral treatment of emotional distress, social and/or generalized anxiety and affective dysregulation, youth with FTLBs have demonstrated a decrease in severity or remission of symptoms in the short-term [72]. This pattern of successful intervention in youth with FTLBs underscores the importance of widespread awareness of the possibility of social contagion influences on mental illness and identity confusion among young people, their parents, and mental health care practitioners [30,73,74].

5. Social awareness and implications for mental health assessment

Concerning the broader question of whether social media is causally related to the rise in rates of adolescent mood disorders, self-harm, and suicide since 2010 in the USA and UK, it has been pointed out that the rise paralleled the years “when American teens were obtaining smart phones and becoming daily users of social media platforms such as Instagram” [17]. The same is true of the unique clinical presentation of FTLBs which first emerged into clinical awareness in 2019 in Germany [32], as well as with the increasing recognition of the DID-plurality community and emergent discourse [35]. More broadly, there has been a recognition of vast online ‘neurodivergence’ ecosystem in which classical mental illness symptoms and diagnoses are viewed less as mental health concerns that require professional attention, but rather as consumer identities or character traits that make individuals sharper and more interesting than others around them [49,75–77].

The above recognition of this ostensibly heterogeneous sociogenic illness behavior, loosely bounded by classical notions of mental health diagnoses, suggests the possibility that the increasingly algorithmic [78] and audiovisually immersive social media environment is a scopic medium [79] in which various ‘neurodivergent’ or sick role [30] identities or personas can be claimed at will, at any given moment—with no antecedent biological basis or tether to empirical reality—with positive social and emotional reinforcement and resonance from the associated online community (e.g., via the use of hashtags; user-to-user sharing and amplification of content) [36]. This social and emotional resonance may amplify and reinforce identification with the persona and may even predict later behaviors in line with it [80]. Sharing emotions, feelings, and thoughts around one’s self-diagnosed mental illness identity within a solely techno-mediated scopic performative milieu in which such feelings, emotions, and beliefs are amplified may increase the likelihood that the ‘self-diagnosed’ identity is reified and incorporated into one’s self-concept, regardless of its correspondence to external reality and conventional taxonomies of mental illness [36,80]. Said differently, the capacity for emotion regulation around the nature of one’s self-identity is increasingly being techno-mediated externally, rather than internally within the self.

Recognizing and responding to this possibility by researchers and mental health practitioners is an urgent public health priority in our view, given extant evidence suggesting that the social media environment is a mental health risk factor for adolescents and youth struggling with elevated personality psychopathology and inchoate personal identities during the transition to young adulthood [17,19,20,22]. In addition, whether and how social media technology is a contributing force in both potentially inducing sociogenic illness while simultaneously influencing how professional mental health organizations evolve with respect to understanding and defining mental illness—thus potentially immunizing current sociogenic illness from classical diagnoses of mental illness—is crucial to take stock of in order to rigorously inform public health discourse and policy [81].

References

- [1] Erskine HE, Moffitt TE, Copeland WE, Costello EJ, Ferrari AJ, Patton G, et al. A heavy burden on young minds: the global burden of mental and substance use disorders in children and youth. *Psychol Med* 2015;45:1551–1563. <https://doi.org/10.1017/S0033291714002888>.
- [2] Adolescent mental health. n.d. URL: <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health> (Accessed 4 December 2022).
- [3] Bangasser DA, Cuarenta A. Sex differences in anxiety and depression: circuits and mechanisms. *Nat Rev Neurosci* 2021;22:674–84. <https://doi.org/10.1038/s41583-021-00513-0>.
- [4] Card NA, Stucky BD, Sawalani GM, Little TD. Direct and indirect aggression during childhood and adolescence: a meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Dev* 2008;79:1185–229. <https://doi.org/10.1111/j.1467-8624.2008.01184.x>.

- [5] Casper DM, Card NA. Overt and relational victimization: a meta-analytic review of their overlap and associations with social-psychological adjustment. *Child Dev* 2017;88:466–83. <https://doi.org/10.1111/cdev.12621>.
- [6] Costello EJ, Mustillo S, Erkanli A, Keeler G, Angold A. Prevalence and development of psychiatric disorders in childhood and adolescence. *Arch Gen Psychiatry* 2003;60:837–844. doi: <https://doi.org/10.1001/archpsyc.60.8.837>.
- [7] Jorm AF. Sex differences in neuroticism: a quantitative synthesis of published research. *Australian New Zealand J Psychiatry* 1987;21:501–506. doi: <https://doi.org/10.3109/00048678709158917>.
- [8] Kwong AS, Manley D, Timpson NJ, Pearson RM, Heron J, Sallis H, et al. Identifying critical points of trajectories of depressive symptoms from childhood to young adulthood. *J Youth Adolesc* 2019;48:815–27. <https://doi.org/10.1007/s10964-018-0976-5>.
- [9] Schmitt DP, Realo A, Voracek M, Allik J. Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *J Pers Soc Psychol* 2008;94:168–182. <https://doi.org/10.1037/0022-3514.94.1.168>.
- [10] Thapar A, Eyre O, Patel V, Brent D. Depression in young people. *Lancet* 2022;400(10352):617–31. [https://doi.org/10.1016/S0140-6736\(22\)01012-1](https://doi.org/10.1016/S0140-6736(22)01012-1).
- [11] Bangasser DA, Cuarenta A. Sex differences in anxiety and depression: circuits and mechanisms. *Nat Rev Neurosci* 2021;22:674–84. <https://doi.org/10.1038/s41583-021-00513-0>.
- [12] Sawyer SM, Azzopardi PS, Wickremarathne D, Patton GC. The age of adolescence. *Lancet Child Adolesc Health* 2018;2:223–228. doi: [https://doi.org/10.1016/S2352-4642\(18\)30022-1](https://doi.org/10.1016/S2352-4642(18)30022-1).
- [13] Conway CC, Latzman RD, Krueger RF. A meta-structural model of common clinical disorder and personality disorder symptoms. *J Pers Disord* 2020;34. <https://doi.org/10.1521/pedi.2019.33.383>.
- [14] Rosenström T, Gjerde LC, Krueger RF, Aggen SH, Czajkowski NO, Gillespie NA, et al. Joint factorial structure of psychopathology and personality. *Psychol Med* 2019;49:2158–2167. doi: <https://doi.org/10.1017/S0033291718002982>.
- [15] Mann FD, Atherton OE, DeYoung CG, Krueger RF, Robins RW. Big five personality traits and common mental disorders within a hierarchical taxonomy of psychopathology: a longitudinal study of Mexican-origin youth. *J Abnorm Psychol* 2020;129:769–787. <https://doi.org/10.1037/abn0000633>.
- [16] Twenge JM. Why increases in adolescent depression may be linked to the technological environment. *Curr Opin Psychol* 2020;32:89–94. <https://doi.org/10.1016/j.copsy.2019.06.036>.
- [17] Haidt J. United States Senate Committee on the Judiciary. n.d. URL: <https://www.judiciary.senate.gov/download/jon-haidt-5422-testimony> (Accessed 4 December 2022).
- [18] Twenge JM. Increases in depression, self-harm, and suicide among US adolescents after 2012 and links to technology use: possible mechanisms. *Psychiatric Res Clin Pract* 2020;2:19–25. <https://doi.org/10.1176/appi.prcp.20190015>.
- [19] Boland JK, Anderson JL. The role of personality psychopathology in social network site behaviors. *Personal Individ Differ* 2019;151:109517. <https://doi.org/10.1016/j.paid.2019.109517>.
- [20] Browne D, Thompson DA, Madigan S. Digital media use in children: clinical vs scientific responsibilities. *JAMA Pediatr* 2020;174:111–2. <https://doi.org/10.1001/jamapediatrics.2019.4559>.
- [21] Eirich R, McArthur BA, Anhorn C, McGuinness C, Christakis DA, Madigan S. Association of screen time with internalizing and externalizing behavior problems in children 12 years or younger: a systematic review and meta-analysis. *JAMA Psychiat* 2022; 5:393–405. <https://doi.org/10.1001/jamapsychiatry.2022.0155>.
- [22] Orben A, Przybylski AK, Blakemore S-J, Kievit RA. Windows of developmental sensitivity to social media. *Nat Commun* 2022;13:1649. <https://doi.org/10.1038/s41467-022-29296-3>.
- [23] Jones SE, Ethier KA, Hertz M, DeGue S, Le VD, Thornton J, et al. Mental health, suicidality, and connectedness among high school students during the COVID-19 pandemic—Adolescent Behaviors and Experiences Survey, United States, January–June 2021. *MMWR Suppl* 2022;71:16–21. <https://doi.org/10.15585/mmwr.su7103a3>.
- [24] Korczak DJ, Madigan S, Vaillancourt T. Data divide—disentangling the role of the COVID-19 pandemic on child mental health and well-being. *JAMA Pediatr* 2022; 635–636. <https://doi.org/10.1001/jamapediatrics.2022.0791>.
- [25] Lebrun-Harris LA, Ghandour RM, Kogan MD, Warren MD. Five-year trends in US children's health and well-being, 2016–2020. *JAMA Pediatr* 2022;176(7):e220056. <https://doi.org/10.1001/jamapediatrics.2022.0056>.
- [26] Patel K, Robertson E, Kwong AS, Griffith GJ, Willan K, Green MJ, et al. Psychological distress before and during the COVID-19 pandemic among adults in the United Kingdom based on coordinated analyses of 11 longitudinal studies. *JAMA Netw Open* 2022;5:e227629. <https://doi.org/10.1001/jamanetworkopen.2022.7629>.
- [27] Racine N, McArthur BA, Cooke JE, Eirich R, Zhu J, Madigan S. Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: a meta-analysis. *JAMA Pediatr* 2021;175:1142–50. <https://doi.org/10.1001/jamapediatrics.2021.2482>.
- [28] Rodman AM, Rosen ML, Kasperek SW, Mayes M, Lengua L, McLaughlin KA, et al. Social behavior and youth psychopathology during the COVID-19 pandemic: A longitudinal study. 2021. <https://doi.org/10.31234/osf.io/y8zvg>.
- [29] Charpignon M-L, Ontiveros J, Sundaresan S, Puri A, Chandra J, Mandi KD, et al. Evaluation of suicides among US adolescents during the COVID-19 pandemic. *JAMA Pediatr* 2022;176(7): 724–726. <https://doi.org/10.1001/jamapediatrics.2022.0515>.
- [30] Harness J, Getzen H. TikTok's sick-role subculture and what to do about it. *J Am Acad Child Adolesc Psychiatry* 2022;351–353. doi: <https://doi.org/10.1016/j.jaac.2021.09.312>.
- [31] Olvera C, Stebbins GT, Goetz CG, Kompoliti K. TikTok tics: a pandemic within a pandemic. *Mov Disorders Clin Practice* 2021;8:1200–5. <https://doi.org/10.1002/mdc3.13316>.
- [32] Müller-Vahl KR, Pisarenko A, Jakubovski E, Fremer C. Stop that! It's not Tourette's but a new type of mass sociogenic illness 2022;145(2):476–80. <https://doi.org/10.1093/brain/awab316>.
- [33] Pringsheim T, Martino D. Rapid onset of functional tic-like behaviours in young adults during the COVID-19 pandemic. *Eur J Neurol* 2021;28:3805–8. <https://doi.org/10.1111/ene.15034>.
- [34] Pringsheim T, Ganos C, McGuire JF, Hedderly T, Woods D, Gilbert DL, et al. Rapid onset functional tic-like behaviors in young females during the COVID-19 pandemic. *Mov Disord* 2021;36(12): 2707–2713. <https://doi.org/10.1002/mds.28778>.
- [35] Christensen EM. The online community: DID and plurality. *Eur J Trauma Disso* 2022;6:100257. <https://doi.org/10.1016/j.ejtd.2021.100257>.
- [36] Griffith FJ, Stein CH. Behind the hashtag: online disclosure of mental illness and community response on tumblr. *Am J Community Psychol* 2021;67:419–32. <https://doi.org/10.1002/ajcp.12483>.
- [37] Basch CH, Donelle L, Fera J, Jaime C. Deconstructing TikTok videos on mental health: cross-sectional, descriptive content analysis. *JMIR Format Res* 2022;6:e38340. <https://doi.org/10.2196/38340>.
- [38] MacKinnon KR, Kia H, Lacombe-Duncan A. Examining TikTok's potential for community-engaged digital knowledge mobilization with equity-seeking groups. *J Med Internet Res* 2021;23:e30315. <https://doi.org/10.2196/30315>.
- [39] Moreno MA, Ton A, Selkie E, Evans Y. Secret society 123: understanding the language of self-harm on Instagram. *J Adolesc Health* 2016;58:78–84. <https://doi.org/10.1016/j.jadohealth.2015.09.015>.
- [40] about. About Tumblr. What Is Tumblr? Well, It's a Website. n.d. URL: <https://about.tumblr.com/> (Accessed 4 December 2022).
- [41] Dee K. Tumblr Transformed American Politics. *The American Conservative*. 2021. URL: <https://www.theamericanconservative.com/tumblr-transformed-american-politics/> Accessed 5 December 2022.
- [42] Heyman I, Liang H, Hedderly T. COVID-19 related increase in childhood tics and tic-like attacks. *Arch Dis Child* 2021;106:420–1. <https://doi.org/10.1136/archdischild-2021-321748>.
- [43] Hull M, Parnes M, Jankovic J. Increased incidence of functional (psychogenic) movement disorders in children and adults amid the COVID-19 pandemic: a cross-sectional study. *Neuro Clin Pract* 2021;11:e686–90. <https://doi.org/10.1212/CPJ.0000000000001082>.
- [44] Paulus T, Bäumer T, Verrel J, Weissbach A, Roessner V, Beste C, et al. Pandemic tic-like behaviors following social media consumption. *Mov Disord* 2021;36:2932–5. <https://doi.org/10.1002/mds.28800>.
- [45] Knight T, Steeves T, Day L, Lowerison M, Jette N, Pringsheim T. Prevalence of tic disorders: a systematic review and meta-analysis. *Pediatr Neurol* 2012;47:77–90. <https://doi.org/10.1016/j.pediatrneurol.2012.05.002>.
- [46] Girgis J, Martino D, Pringsheim T. Influence of sex on tic severity and psychiatric comorbidity profile in patients with pediatric tic disorder. *Dev Med Child Neurol* 2022;64:488–94. <https://doi.org/10.1111/dmcn.15088>.
- [47] Stone J. Neurology® Podcast: TikTok Tics? n.d. URL: <https://neurology.libsyn.com/website/tiktok-tics> (Accessed 4 December 2022).
- [48] Lucas J. Inside TikTok's booming dissociative identity disorder community. Input. n.d. URL: <https://www.inverse.com/input/culture/dissociative-identity-disorder-did-tiktok-influencers-multiple-personalities> Accessed 4 December 2022.
- [49] Dee K. Multiple Personality Disorder or DID Seems Prevalent Online. *Default Wisdom*. 2022. URL: <https://defaultfriend.substack.com/p/multiple-personality-disorder-or-accessed-4-december-2022>.
- [50] Winn Stephanie. [sometherapist]. @JDHaltigan @lacroicsz @SwipeWright Thank you. I retweeted this enlightening article with the commentary that DID as represented on TikTok looks much more like Histrionic and/or Narcissistic Personality Disorder plus Factitious Disorder/Munchausen Syndrome. *Twitter*; 2021.
- [51] Harrison C, Elaridi F, Bernabe J. Experts troubled by TikTok trend that can have teens believing they have serious mental disorders. *Good Morning America*. n.d. URL: <https://www.goodmorningamerica.com/wellness/story/experts-troubled-tiktok-trend-teens-believing-mental-disorders-81964649> Accessed 4 December 2022.
- [52] deBoer F. 'Multiple Personality Disorder' Probably Doesn't Exist, And There Certainly Hasn't Been an Explosion of It Among the Youth. *Freddie DeBoer*. 2022. URL: <https://freddieboer.substack.com/p/multiple-personality-disorder-probably-accessed-4-december-2022>.
- [53] Boysen GA. The scientific status of childhood dissociative identity disorder: a review of published research. *Psychother Psychosom* 2011;80:329–34. <https://doi.org/10.1159/000323403>.
- [54] Friedl M, Draijer N, De Jonge P. Prevalence of dissociative disorders in psychiatric in-patients: the impact of study characteristics. *Acta Psychiatr Scand* 2000;102: 423–8. <https://doi.org/10.1034/j.1600-0447.2000.102006423.x>.
- [55] Trauma IS, for the S of, Dissociation. Guidelines for treating dissociative identity disorder in adults, third revision. *J Trauma Dissociation* 2011;12:115–87. <https://doi.org/10.1080/15299732.2011.537248>.
- [56] Sar V. Epidemiology of dissociative disorders: an overview. *Epidemiol Res Int* 2011;2011. <https://doi.org/10.1155/2011/404538>.
- [57] Petko D, Egger N, Schmitz F, Totter A, Herrmann T, Guttormsen S. Coping through blogging: a review of studies on the potential benefits of weblogs for stress reduction. *Cyberpsychol J Psychosoc Res Cyberspace* 2015;9. <https://doi.org/10.5817/CP2015-2-5>.

- [58] Uhls YT, Ellison NB, Subrahmanyam K. Benefits and costs of social media in adolescence. *Pediatrics* 2017;140:S67–70. <https://doi.org/10.1542/peds.2016-1758E>.
- [59] Monroe SM, Simons AD. Diathesis-stress theories in the context of life stress research: implications for the depressive disorders. *Psychol Bull* 1991;110(3):406–425. <https://doi.org/10.1037/0033-2909.110.3.406>.
- [60] Roisman GI, Newman DA, Fraley RC, Haltigan JD, Groh AM, Haydon KC. Distinguishing differential susceptibility from diathesis–stress: recommendations for evaluating interaction effects. *Dev Psychopathol* 2012;24:389–409. <https://doi.org/10.1017/S0954579412000065>.
- [61] Ingram RE, Luxton DD. Vulnerability–stress models. *Dev Psychopathol Vulnerab Stress Perspect* 2005;46:32–46. <https://doi.org/10.4135/9781452231655.n2>.
- [62] Zuckerman M. Diathesis–stress models. 1999. In M. Zuckerman, Vulnerability to psychopathology: A biosocial model (pp. 3–23). American Psychological Association. doi:10.1037/10316-001.
- [63] Tackett JL, Lahey BB, Van Hulle C, Waldman I, Krueger RF, Rathouz PJ. Common genetic influences on negative emotionality and a general psychopathology factor in childhood and adolescence. *J Abnorm Psychol* 2013;122(4):1142–1153. <https://doi.org/10.1037/a0034151>.
- [64] Freyth L, Batinic B, Jonason PK. Social media use and personality: beyond self-reports and trait-level assessments. *Personal Individ Differ* 2023;202:111960. <https://doi.org/10.1016/j.paid.2022.111960>.
- [65] Jin SV, Ryu E. “A streetcar named Instagram desire”: evolutionary psychological perspectives on the multifarious human desires that shape Instagram selfie-and-groupie cultures. *Behav Sci* 2022;12:396. <https://doi.org/10.3390/bs12100396>.
- [66] Lin N. Building a network theory of social capital. *Connections* 1999;(22):28–51.
- [67] Rogers LG. TikTok teens: turbulent identities for turbulent times. *Film Fashion Consump* 2021;10:377–400. https://doi.org/10.1386/ffc.00031_1.
- [68] Kircaburun K, Jonason PK, Griffiths MD. The Dark Tetrad traits and problematic social media use: the mediating role of cyberbullying and cyberstalking. *Personal Individ Differ* 2018;135:264–9. <https://doi.org/10.1016/j.paid.2018.07.034>.
- [69] Twenge JM, Martin GN. Gender differences in associations between digital media use and psychological well-being: evidence from three large datasets. *J Adolesc* 2020;79:91–102. <https://doi.org/10.1016/j.adolescence.2019.12.018>.
- [70] Svensson R, Johnson B, Olsson A. Does gender matter? The association between different digital media activities and adolescent well-being. *BMC Public Health* 2022;22:1–10. <https://doi.org/10.1186/s12889-022-12670-7>.
- [71] Rajkumar G, Haltigan JD. Encouragement of self-diagnosis through tiktok - why it may be more damaging than you'd think. *The Multilevel Mailer*. 2022. URL: <https://jdhaltigan.substack.com/p/encouragement-of-self-diagnosis-through> Accessed 4 December 2022.
- [72] Howlett M, Martino D, Nilles C, Pringsheim T. Prognosis of rapid onset functional tic-like behaviors: prospective follow-up over 6 months. *Brain Behav* 2022:e2606. <https://doi.org/10.1002/brb3.2606>.
- [73] Littman L. Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria. *PLoS One* 2018;13:e0202330. <https://doi.org/10.1371/journal.pone.0202330>.
- [74] Littman L. Correction: parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria. *PLoS One* 2019;14:e0214157. <https://doi.org/10.1371/journal.pone.0214157>.
- [75] DeBoer F. Mental illness doesn't make you special - UnHerd. n.d. URL: <https://unherd.com/2022/04/mental-illness-doesnt-make-you-special/> (Accessed 4 December 2022).
- [76] Begner D. Doctors Gave Her Antipsychotics. She Decided to Live With Her Voices. - The New York Times n.d. URL: <https://www.nytimes.com/2022/05/17/magazine/antipsychotic-medications-mental-health.html> Accessed 4 December 2022.
- [77] Dee K. Did Tumblr turn your kid trans? *Default Wisdom*. 2022. URL: <https://defaultfriend.substack.com/p/did-tumblr-turn-your-kid-trans> (Accessed 4 December 2022).
- [78] Bhandari A, Bimo S. TikTok and the “algorithmized self”: a new model of online interaction. *AOIR Selected Papers of Internet Research* 2020. <https://doi.org/10.5210/spir.v2020i0.11172>.
- [79] Sheriff RE, Mageo J. Young Americans' dreaming in the specular age. *Ethos* 2019;47:129–47. <https://doi.org/10.1111/etho.12237>.
- [80] Valkenburg PM. Understanding self-effects in social media. *Human Commun Res* 2017;43:477–90. <https://doi.org/10.1111/hcre.12113>.
- [81] Yang Wesley. Social tech created... a memetic machine for inducing sociogenic illness, immunizing it from diagnosis, normalizing it as identity, weaponizing its victims in pseudo-political power seeking crusades that generates sinecures and consulting fees.... Twitter; 2022.

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