Table S1. Supplementary materials. Social media use and mental health: A global analysis.

Study Area	Studied by	Sample Size	Social Media			Mental Health Findings		Strength	Weakness
			Facebook (N =)	Twitter (N =)	Instagram (N =)	Positive	Negative		
L'Aquila, Italy	Masedu et al., 2014	890	√			474	416	The first epidemiological study focused on social network use as a factor in mental health.	A cross-sectional design, and no knowledge of the quality of life scores before the study began.
Pathumthani, Thailand	Hanprathet et al., 2015	972	√			781	191	Illustrated some risks of Facebook usage affecting the mental health status of Thai adolescents.	This was a cross-sectional study, so causation between Facebook and mental health issues cannot be determined.
Lublin, Poland	Blachnio et al., 2015	672	√					Found additional evidence that daily Internet use time in minutes, gender, and age are also predictors of Facebook intrusion.	This study used self-report methods meaning that those who were included filling out the reports themselves without being observed.
Madison, Wisconsin	Moreno, MA. et al., 2012	190	√			5	185	The well-designed study, rigorous data-collection process, validated.	Limited geographical scope, small sample size, studied on older adolescents only.
United States	Baker et al., 2016	35,044	√					Only included articles that had a quantitative design that compared social network site use and depression.	Limitations in the method of surveying were present in all the studies investigated.

New Hampshire	Naslund, et al., 2018	25	√			The study lasted for 6 months, so researchers were able to obtain significant data for all their participants.	A small sample size that lacked racial/ethnic diversity.
Bochum, Germany	Brailovskaia et al., 2016	945	√	934	11	One of the first studies to analyze the relationship between personality traits and mental health in Facebook users and non-users.	Did not consider the participants' time on other social networking sites than Facebook.
New South Wales, Australia	Richards et al., 2015	Literature review	√			Identified lack of research in the area of social media and its effect on children and adolescents.	Did not explicitly say how many studies were investigated.
Korea, Advanced Institute of Science and Engineering	Park et al., 2013	55	√			The app, Emotion Diary, successfully evaluated depressive symptoms as well as provided tips and facts to users.	Limited sample size.
Michigan, University of Michigan	Watkins DC, et al., 2017	8	√	5	3	Focused on an ethnic minority	Limited sample size.
Many profiles and regions	Moreno et al., 2011	200	√	150	50	The first study was to identify mental health disclosures on a public social network site.	Only used publicly available profiles, and only one site and university were used.

England, Cambridge University	Naslund JA. et al., 2016	Commentary	√	√		Reaching out to others on social media creates ties and confidence.	Going to social media for support may cause risks and potential rejection.
Glasgow, UK	Fergie et al., 2015	40	√	√		Used interviews to determine participants' perception of online material regarding diabetes and common mental health disorders.	The sample size is very small to extract data from.
Springer Science and Business Media New York	Lis et al., 2015	160	√	√	√	The study researched the opinions of psychiatrists on whether social media had adverse effects on psychosis.	Only 48 of the 160 psychiatrists completed the questionnaire so the results are skewed.
Worldwide	Berry et. al., 2017	132		√		Able to derive themes from their tweet-based study that highlights the "therapeutic benefits of Twitter."	Users may have avoided using their hashtag to prevent being used for research purposes. This created a limitation in the number of tweets the researchers received. Moreover, people were less likely to highlight negative mental health problems to avoid detailing their issues to their followers.
California, USA	Ghaznavi et al., 2015	300		√		Found that "thinspiration" posts (posts promoting a	The sampling technique resulted in a large percentage of the

				thin figure) purvey social media, so they can be used to target these people who need help.	posts being relatively recently posted.
Victoria, Australia	Reavley et al., 2014	6358	√	The majority of the tweets collected were supportive or neutral of those with depression or schizophrenia.	Inability to determine the proportion of tweets referring to depression and anxiety that were analyzed.
New York City during Hurricane Sandy	Gruebner et al., 2017	344,957	√	Can use Twitter to anticipate acute stress in areas and identify community mental health needs quickly, big sample size.	This is only sampled on a natural disaster.
Worldwide	Cavazos-Rehg et al., 2016	2000	√	Findings can be used to help promote prevention and awareness of depression.	Data lacked contextual meaning since the context was limited by 140 characters in a tweet, leaving out room for explanation.
Health related media	Sadah et al., 2016	20 million	√	Gives information as to why and how people use media to learn about health. Further shows how different demographics use different media outlets, large sample sizes.	Some data will lack contextual meaning because of the brevity of Twitter posts and limited information on website searches.

Location	Study	N					Findings	Limitations
Seattle Children's Research Institute	Moreno et al., 2016	200			√			Discovered numerous self-harm hashtags and data about self-harm.	The study was limited to only one form of social media; did not include Twitter or Facebook.
University of Mississippi, United States	Firth et al., 2017	39	√			18	21	Eight-week social media intervention on anxiety in college students examining the impact of dynamic (active) versus static (passive) Facebook content on physical activity behaviors.	The inability to completely blind participants may have limited participant interaction and comfortability in this study.
Worldwide	Yager et al., 2020	1429	√			1070	359	A cross-sectional survey of adult women using an online community sample, with both open and closed questions, was conducted using the survey software Qualtrics.	The cross-sectional nature of the research, and the convenience and snowballing sampling method used. Cannot be sure that the differences in scores observed between those who had, and those who had not seen the film, are attributable to viewing the film. Possible selection bias.
Koshu, Japan	Kojima et al., 2018	2887			√	2381	506	Broadly examined the factors related to PIU among junior-high-school students in Japan.	Since the subject of this study is limited to junior-high-school students in rural areas, caution in generalizing the

Country/Location	Author, Year	n						Findings	Limitations
								Clarified relationship of PIU (Problematic Internet use) with sleep and psychological factors.	study's results is needed.
Germany	Brown et al., 2019	52			√	10	42	The first study to investigate language use on Instagram, one of the most prominent social media platforms among adolescents.	Methodological limitations are related to the exploratory character of this study and the small sample size. Therefore, the results of this study have to be interpreted with caution and cannot be generalized to other populations.
The University of Hull, Hull, UK	Bell et al., 2015	11	√			9	2	The research group studied how people choose to mourn the loss of their dead, and accurately showed how people would respond on Facebook.	The study only showed how people would react on Facebook and neglected other forms of social media.
United States	Hill et al., 2019	148	Not applicable (n/a)	n/a	n/a	125	23	Medical students from one US allopathic medical school were asked to take part in a 12- question survey. Questions were designed to assess their ability to identify,	Lack of information regarding demographics of medical students partaking in the study, (e.g., sex, age, year in medical education)

Location	Study								
						address, and counsel patients on the association between social media and mental health.		
United States	Sumner et al., 2019	10,998		√		3486 (31.7%)	7512	Broadly assessed dissemination of positive messages on social media.	Limited study period and inability to capture all positive messages. Did not assess how such messages influenced behavior.
Wuhan, China	Gao et al., 2020	4872	n/a	n/a	n/a	1361	3511	Multivariable logistic regressions were used to identify associations between social media exposure with mental health problems after controlling for covariates.	A cross-sectional study among Chinese citizens aged ≥ 18 years old was conducted from 31 January to 2 February 2020. An online survey was used to do a rapid assessment.
Wuhan, China Wuhan, China	Ni et al., 2020	1791	n/a	n/a	n/a	1535	256	A multivariable logistic regression analysis was used to examine factors associated with probable anxiety and probable depression.	Online survey via WeChat, a widely used social media platform in China.
Kurdistan, Iraq	Ahmad, et al., 2020	516	√	√	√	317	199	A quantitative survey methodology to obtain data from Kurdish social media. The	Self-reported data from self-selected participants and the lockdown period was a constraint to gathering more

Location	Study	Total						Description	Limitation
								questionnaire was prepared in the Kurdish language.	representative data.
India	Roy et al., 2020	662	n/a	n/a	n/a	421	241	This study attempted to assess the knowledge, attitude, anxiety experience, and perceived mental healthcare need among the adult Indian population during the COVID-19 pandemic. An online survey was conducted using a semi-structured questionnaire using a non-probability snowball sampling technique.	The study is limited to individuals who had smartphones, e-mail IDs, and the ability to speak English. This represents the educated population of the country, so it should not be generalized to the whole population.
Literature Search, United States	Fung et al., 2020	66			√	27	39	Only public health-related, peer-reviewed research articles were included (excluding surveys of self-reported social media use).	No meta-analysis was performed.
Worldwide	Abd-Alrazaq et al., 2020	160,829	√			n/a	n/a	Identified the main topics posted by Twitter users related to the COVID-19 pandemic.	The study only analyzed tweets in the English language, which may limit the generalizability of the findings of this

Location	Author	n						Description	Limitations
									worldwide outbreak. Findings may not represent all the topics discussed by users on Twitter related to COVID-19.
Karachi,Pakistan	Balkhi et al., 2020	400	n/a	n/a	n/a	150	250	A structured, self-administered questionnaire was constructed, based on previously conducted surveys, assessing the psychological impact and behavioral changes about COVID-19. The responses were compared based on gender, age, and level of education, to find possible statistical correlations using the chi-square test.	Being an online survey, bias could not be eliminated, and language barriers could not be bridged. Pre-existing psychiatric conditions among the participants not considered. The study focused on the urban population and the responses in rural areas might have significantly differed.
South Korea	Park et al., 2020	43,832	√			n/a	n/a	This study investigates information transmission networks and news-sharing behaviors regarding COVID-19 on Twitter in Korea.	The study's results may reflect social media users' views and behaviors during the pandemic rather than the full population's aggregate opinion. In addition, biases in information-sharing behaviors can exist, as some

United Kingdom	Ahmed et al., 2020	6556		√		n/a	n/a	This study aimed to develop an understanding of the drivers of COVID-19 conspiracy theories and strategies to deal with such misinformation. This paper performs a social network analysis and content analysis of Twitter.	Search API only retrieved data from public-facing Twitter accounts. Twitter topics are likely to contain automated accounts known as "bots"
United States	Lin, et al., 2016	1787	√	√	√	795	992	This study assessed depression and social media use across multiple social media platforms in a large, nationally representative sample of young adults.	Only used publicly available profiles and only one site and university were used.
The University of Hull, Hull, UK	Budhwani et al., 2020	193,862		√		n/a	n/a	A cross-sectional survey of adult women using an online community sample, with both open and closed questions, was conducted using the	Unable to use "gold standard" measures of social media exposure such as ecological momentary assessment or empirical data from social media sites due to the large sample size.