
A SYSTEMATIC REVIEW: WHERE AND HOW ACADEMIC RESEARCH FOCUSED ON SOCIAL MEDIA AND PSYCHOLOGICAL WELLBEING

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ABSTRACT

The turn of the 21st century witnessed an unprecedented surge in the use of Social Network Sites (SNSs). The developing world also experienced a similar congruent networking transformation in terms of employment of the emerging SNN tools. Correspondingly, research magnitude on the implication of SNSs use has also grown exponentially with recommendations for conducting studies in less privileged countries. The present systematic review is based on doctoral research aimed to present the status of SNSs studies and psychological well-being in both developing and developed countries. The review analyzed thirty-two articles—published during 2005 to 2018 and focused on the relationship between SNSs usage and users' psychological well-being. The results revealed that higher number of academic research regarding social media use and psychological wellbeing was conducted in developed part of the world, mainly in USA. Given the limitations of the available literature, the review also recommended suggestions for future directions in investigations and studies on the subject.

Keywords: *SNSs, psychological well-being, developing countries, developed countries, life satisfaction*

INTRODUCTION

Within two decades of its wider introduction (2000–2019), the Internet and social media have become integral elements of daily life. The psychological consequences of these technologies owing to the proliferation of technologies, however, remain a debatable topic (Reinecke & Trepte, 2014). As in the 1990s, while the sweeping surge of modern technology had started to

reshape lives and societies in industrialized and developed regions into a virtually connected globalized world, scholars took to addressing the adverse effects of the Internet. Putnam (1995) observed a decline in social capital, i.e., deterioration in social relationships and civic involvement as a consequence of the advent of Internet-related communication. In continuity, Kraut et al. (1998b) documented that the Internet, at the outset, had already started creating issues in quality of life and psychological well-being of its users owing to its addictive and obsessive propensities and dispositions.

Despite several benefits that the emerging technologies offered, such as easy access to information, enhanced communication and growing virtually connected relationships (Hampton, Lee, & Her, 2011), the question of negative impacts of the Internet continued to remain a matter of major concern with the social sciences researchers. The communication transformation exerted strong impacts on human behavior and social lives (Antoci, Sabatini, & Sodini, 2012); therefore, it was pertinent to explore the association of the Internet and the users' psychological well-being (Ellison, Steinfield, & Lampe, 2007).

Likewise, information and communications technology (ICT) diffusion has brought dramatic behavioural transformation in developing societies. The new media usage in developed countries has been extensively studied, thus very limited attempts focusing on new media utilization involving users from developing countries were found. Since the usage of new media is currently accelerated at a faster pace in developing countries, the research focus has now shifted to assess the impact of new media technologies among the users in developing countries.

The research on the usage of new media conducted in developing countries (Musarrat, Masood, Rashid, & Mazahir, 2017) is usually focused on young adolescents (O'Donnell & Sweetman, 2018). Due to the conservative culture, and limited opportunities in low-income countries, new media users in these settings cause more discernable social and mental health-related issues (Al-Asfour, Tlaiss, Khan, & Rajasekar, 2017; Bhalalusesa, 1998). Mental disorders, owing to Internet-use related issues, are increasing at an alarming rate despite the fact that several mental cases are not formally reported due to peculiar inhibitions in developing countries (Bashir, 2018). Considering the increasing use of new information technologies, including mobiles and social media networking, it was anticipated that new media technologies would contribute to well-being of people in developing countries (Pimmer, Linxen, & Gröbhiel, 2012). Unfortunately, the available data of facts and figures do not positively support the said anticipation. Therefore, the current systematic review aimed to highlight as to what extent social media research has focused on psychological well-being of Internet-users in developing countries. Further, the systematic review also presented the comparison of SNSs research and psychological well-being between developing and developed countries.

Considering the importance of the issue and the mixed findings that the research has produced to date, the current systematic review is derived from doctoral research, which addressed the impact of social media use on psychological well-being of users in developing countries. The basic study was conducted in a developing country, Pakistan, where social media research is at an infant stage.

In Pakistan context, the association between social media and psychological well-being has yet not been explored to a satisfactory level. There is a wide gap in measuring the effects of social media on the psychological well-being of individuals in developing countries. Thus,

the current systematic review is an effort to present available studies and identify the areas where much of the research concerning social media use and psychological well-being is carried out. Social science researchers, particularly in developing countries, could grasp and expand this research opportunity to identify and bridge the gap. Furthermore, contextual and cultural impacts on important aspects of behavior and life associated with the usage of social media and the Internet in developing countries will be highlighted in this review.

The review begins with an attempt to establish distinctive definition of social media and psychological well-being, status of new media technologies, and level of mental and social well-being between developed and developing countries. The importance of research focusing on social media and psychological well-being in developed and developed countries will be explained followed by the methodology used, discussion, and findings. Lastly, the comparison of studies is given to identify gaps, limitations and recommendations for future studies.

Developed and Developing Countries

According to the United Nation (UN), countries are broadly classified into three categories: developed economies, economies in transition, and developing economies. The developed countries have good governance, stable political system, well established educational institutions, well defined customs and laws, and high economic infrastructure; whereas, in comparison, most developing countries lack these characteristics (Goodspeed, Vazquez, & Zhang, 2010).

The differences between developed and developing countries are addressed according to their study scope and objectives such as education, government and legal systems, ICT infrastructure, health, business and; employment opportunities.

Status of New Media Technologies in Developing Countries

Information and communications technologies (ICTs) encompass the digital and analog infrastructure, tools, and devices enabling humans and systems to frequently and reliably exchange messages and data. Examples of ICTs include Internet, mobile phones, computers, wearable biometric devices and; digital cameras.

A significant shift in the availability of new media technologies in developing countries resulted in increasing Internet subscription (ITU, 2013). Besides, the mobile phone market also expanded with growing number of mobile phone users. However, a wide gap still exists between developed and developing countries in the context of information and communication technology (ICT) development, access, and use (Chang et al., 2012). Despite taking IT as an integral component of development (ICT4D), accessibility to ICTs and their impacts remain a serious concern in the developing regions.

Commonly known as “digital divide”, developing countries are positioned lower in economic, political, and social domains (Kaba and Said, 2013), which thwart economic development, government efficiency, and social structure, (Zhu and Chen, 2013) causing compromised well-being of people (Ayanso et al., 2010; Chinn and Fairlie, 2007). On the other hand, developed countries exploit the digital development and control the information flow to developing regions to maintain their lead (Parker, 2001; Van Dijk and Hacker, 2003).

The gap observed in the development and access of ICT sparked serious concerns to scholars (Zhu & Chen, 2013). Therefore, the inequality in access and usage not only affects individuals' position in society, but it also affects a country's position in the world on a larger scale (Van Dijk & Hacker 2003).

Consequently, to compete with other countries in the world, governments of developing countries formulated ICT-friendly policies to increase the access and narrow the gap. However, a great amount of efforts, such as technological, cognitive, and social resources are still required to effectively address the issue (Avgerou, Hayes, & La Rovere, 2016).

SOCIAL NETWORKING SITES (SNSS)

The emergence of the "World Wide Web" marked a new historical beginning of social networking and community building (Pentina & Zhang, 2017). Within a short span of time, millions of people around the world switched to online interactive communication platforms and transformed the world into a global village (Kapoor et al., 2018; Chen & Sharma, 2013).

The history of SNSs began with the launch of "Six Degree" in the late 1990s. This paved the way for other SNSs. The 21st century introduced a culminating series of SNSs: My Space in 2003, LinkedIn in 2002, Facebook in 2004, and Twitter in 2006. Currently, more than sixty SNSs are being used worldwide. Among the most widely used SNSs, Facebook tops the list with more than 1.5 billion active users worldwide (October 31, 2019).

By definition, social networking sites (SNSs) are "*user-oriented websites*" that focus on users' interests (Heidemann et al., 2012; Sørensen, Porrás, Hajikhani, & Hayar, 2014). However, the term SNSs is commonly applied to all user-oriented communication sites without differentiating "*content-oriented*" sites. For example, Twitter and YouTube are "*microblogging sites*" or "*content-communities*" (Berger, Klier, Klier, & Probst, 2014) and lack higher and active reciprocity (Wang, Min, & Liu, 2014) even though they possess similarities with other SNS. In these modern-days, communication platforms provide "*communication and interactive environment*" where users can share and consume content, develop audio and visual links, and extend their networks (Ellison, Vitak, Gray, & Lampe, 2014). Once a user becomes a member of an SNS by building a profile and starts communicating with other users in the same network, the communication process is let loose. A common term for this virtual connection is "*online friend*". Even anonymous people become friends with each other. The genesis of this term in the historical background can probably be traced back to the idea of "*pen-friend*". It is pertinent to note that the "*pen-friendship*", with all its advantages lacked the speed of reciprocity as facilitated by the advanced technology and experienced by the SNSs' users. The common features of communication through SNSs include posting material, commenting on posts, tagging contacts, and liking posts. The message board, known as the "*wall*", provides an opportunity for users to create their own content and share it with people in their "*contacts list*" (Erfani, Abedin, & Blount, 2016).

SNSs Users

Social media usage is increasing rapidly worldwide with three billion active users on various social media platforms (Statista, 2019). Surprisingly, an unprecedented increase is observed in developing countries as well (Poushter et al., 2018). Earlier, scholars used to focus on adolescents regarding the alarming trends of social media use (Best, Manktelow & Taylor,

2014) which caused negative impacts on their psychological well-being because initially young people, mostly males, were found as excessive users of social media. However, recent reports have revealed the addictive use of SNSs among females as well. Research also indicates that other segments of the population such as children, minorities, senior citizens, and special people are also enthusiastically involved in social media usage. Additionally, the use of SNSs is becoming progressively popular among pre-teen (9-12) and teenage (13-15) groups, making them “technology-dependent” and “socially isolated” (Dyer, 2018). The excessive use and growing reliance on technology, specifically social media, is quite instrumental in extending network ties, but at the same time, is also causing mental disorders.

Psychological Well-Being

The concept of “psychological well-being” is explained in the context of users’ moods (happy, sad, positive, and negative); their perception of life and its purposes; the quality of their social relations; and their personal thoughts about the phenomenon (Steptoe, 2015). As explained by Huppert (2009), *“Psychological well-being is about lives going well and the combination of feeling good and functioning effectively.”*

The scrutiny of available literature revealed that so far the research concerned, psychological well-being mainly revolves around three perspectives: “hedonic, eudemonic, and life satisfaction”. Each perspective defines and views psychological well-being differently. The “hedonic” perspective focuses on “subjective well-being”, which relates to the presence or absence of happy feelings (Bradburn, 1969; Diener, 1984). In contrast, the “eudemonic” views psychological well-being as human development and effective functioning in society (Ryff & Singer, 2008; McMahan & Estes, 2011). The third perspective, “life satisfaction”, explains the individual’s judgmental evaluation of others about him/her (Ryan & Deci, 2001).

The traditional definitions of psychological well-being concentrate on lack of mental disorders, such as depression, anxiety, and stress. With palpable advancement in the field of psychological research, the absence of mental distress does not anymore automatically translate into psychological well-being. Researchers have also examined other indicators of psychological well-being, transgressing the traditional definition of well-being. In this regard, Ryff (1989) extensively worked and presented a “multidimensional view” of psychological well-being including self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, personal growth, and life direction. Additionally, Winefield, Gill, Taylor, & Pilkington (2012) reported that enhanced life-satisfaction, social and mental support, and capabilities and positivity among people also contribute to high psychological well-being.

Self-acceptance refers to one’s ability to accept and acknowledge the good and bad personality traits, and covert strengths and weaknesses. The dimension of “positive relations” focuses on trustworthy and satisfying relationships with others. Autonomy identifies independence, decision making power, and resistance to social pressures. Environmental mastery refers to a sense of self-competence and the ability to manage unfavorable circumstances. Purpose in life recommends the objectives and goals in life and persistence in fulfilling desires. While the last dimension “personal growth” emphasizes continued personal and social development and extended capacities and improvement (Ryff & Keyes, 1995).

Social Media and Psychological Well-being

The number of SNSs increased precipitously, facilitating millions of people to inter-connect. Such massive use of the platforms for communication and exchange of knowledge has tangibly influenced the psychological well-being of users (Berger et al., 2014; Utz & Breuer, 2017) both positively and negatively, and it is an insuppressible phenomenon for further explorations in social sciences (Guo, Li, & Ito, 2014).

Starting from Kraut et al., (1998) to date, researchers have extensively discussed the impacts of SNSs on psychological well-being. The study by Kraut et al., (1998) paved way for future studies and also raised concerns among the researcher community (Alam et al., 2014), particularly with respect to “Internet addiction” (Young, 2004). Spending excessive hours online is “misuse” of the Internet which leads to avoiding personal relationships and ultimately gives rise to anxiety and depression (Tonioni et al., 2012).

METHODOLOGY

This review is derived from the accumulated literature review of a Ph.D. study, and-utilized PRISMA (Standard Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009) to categorize cited studies on the basis of location and to produce unbiased and accurate systematic review. The PRISMA checklist was strictly observed during the selection process to ensure relevance. For example, first the title was observed for relevance, then abstract was read to have a brief overview of the study, and later introduction was assessed to analyze the background, rationale, objectives, and research question of the study. A detailed description of the methodology section was noted which included study design, data collection tool, and sampling technique. Lastly, results and findings were analyzed and discussion and conclusion were observed to find the limitation and recommendation of the study. In addition, selected studies are tagged regions-wise to differentiate between the developed and developing regions. PRISMA checklist-compliance helped avoid issues such as repetition and biases. Furthermore, PRISMA guidelines are presented in diagram which consists of four phases i.e., “identification, screening, eligibility, and inclusion”.

Eligibility Criteria

The review especially focused on “academic” and “empirical” studies that observed and followed the rules of scientific research. Besides, to avoid repetition and confusion, a criterion for “inclusion and exclusion” was determined to identify only studies focusing on SNSs use and users’ psychological well-being. The selection process kept in view the objective and the research question to avoid ambiguity and biases.

The inclusion rules postulate that the articles are written in English, have peer-review publications during the period from 2005 to 2018, and are relevant to the research question and objective. The researcher must identify the location of studies because—studies where location was not mentioned were excluded from the review. Clinical or experimental studies were also excluded. Studies which psychological impacts were broadly termed as positive or negative impacts were also eliminated from the list.

Search Strategy

The main study was multidisciplinary and focused on quite diverse literature. The review at first identified only relevant studies. To ensure accuracy and addition in available studies, it explored both multidisciplinary and specialized databases. Along with well-known databases like Web of Sciences and Scopus, Google scholar and region-based psychological associations and mental health databases were also explored.

To manage the data, Mendeley library was created and later the library was imported to NVivo. Keeping in view the inclusion and exclusion criterion, the screening was performed in two stages: firstly, title and abstract screening, and secondly, full-text screening. The list of main keywords and combination of terms included “SNSs use, psychological well-being, SNSs users’ psychological well-being, SNSs and developing countries, SNSs research in developed countries, SNSs and life satisfaction, positive impacts of SNSs, and negative effects of SNSs”. Each keyword was repeated in developing and developed region context as well.

The selected time period was chosen in view of the emergence of Facebook in 2004 which had generated much academic debate on its effects on the users. In short, the inception of Facebook triggered SNS research. The search process also identified few conference proceedings which fulfilled the selection criterion.

Study Selection

The initial search surfaced 288 articles which decreased to 179 on sifting for duplication. Since PRISMA was used for article selection, a checklist of screening was performed on the title, abstract, keywords, introduction, methods, results, and conclusion of the research paper. This screening checklist further excluded 103 articles and clinical studies with focus on general uses.

In the second phase of filtering, the remaining seventy-six articles were evaluated and forty-four articles were further excluded due to lack of focus on SNSs and psychological well-being. The sifting process resulted in identification of 32 papers for final assessment. The figures given below (Figure 1) highlights the inclusion and exclusion procedure according to PRISMA.

Data reliability is an important question when data are manually interpreted. Therefore, a ‘Krippendorff’s alpha’ was applied (Krippendorff, 2011) to measure the reliability of content reported among the researchers. Krippendorff’s alpha (α) is a reliability coefficient (value should be 0.800 or higher) which indicates agreement among the researchers, coders, assessors, and the content. In this study, the reliability coefficient obtained was 0.870, reflecting high reliability of agreement. For a convenient assessment, the selected studies were categorized into “quantitative and qualitative” and each category was evaluated against sets of questions and rules.

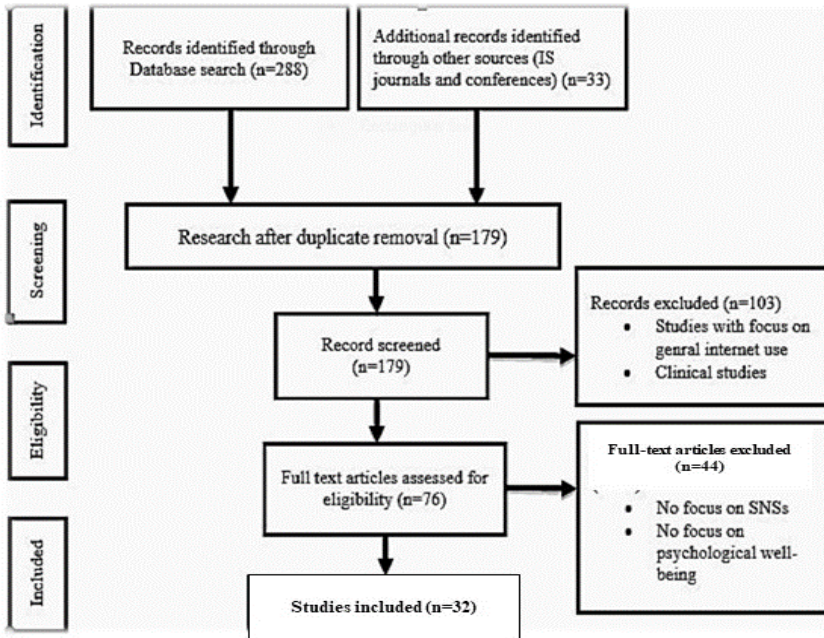


Figure 1: The review process of involving inclusion and exclusion using PRISMA (Moher et al. 2009).

For the quantitative studies, the assessment criterion included research question/hypothesis, appropriate study design, methods, variables, operationalization, sample size and sampling strategy, appropriate application of statistical analysis, explanations of outcomes/ results, and well-drawn analytical conclusion. Criteria for qualitative studies were assessed according to stated research questions and objectives, suitable/relevant study design, explanation of the context and the bridging theoretical framework with the wider body of knowledge, relevant and appropriate sample, data collection, coding and themes, ordering and mapping themes, thematic analysis, credibility, and conclusion.

Extraction and Synthesis of Data

The information obtained from the selected research papers was synthesized through NVivo software. All selected articles were imported to the software for qualitative analysis. NVivo was selected owing to its precision, time-effectiveness, and result for reliability. The software reduces the manual efforts of interpretation and data handling and enables rapid identification of co-occurring references in the articles. The articles were imported through Mendeley bibliographic details which were captured by NVivo.

Each article was independently coded, examined, and discussed following the narrative approach commonly used in qualitative studies to synthesize diverse and varied research work (Erfani et al., 2016). NVivo was used to run a query and summarize the data in a grid. Rows identified the case nodes and columns highlighted the themes nodes. Case nodes were articles and theme nodes included SNSs, theoretical and methodological frameworks, research participants and designs, and categorization of impacts into negative and/or

positive or mixed results. After data synthesis, the obtained information was analyzed according to the research question of the current study.

Table 1: Presenting Selected studies related to Social Media and Psychological Wellbeing

Author Name	Method	Sample	Variables	Country
Valkenburg, Peter, & Schouten (2006)	Online Survey	881 Dutch adolescents between 10 and 19 years of age	Social self-esteem, Life Satisfaction	
Valenzuela, Park, & Kee (2009)	Survey	University Graduate	Life Satisfaction, Social Trust, Civic and Political Participation Respondents', Intensity of Facebook Use	USA
Dare (2009)	Semi-structured interview	40 women	Facebook use, Positive Relations	Australia
Burke, Marlow, & Lento (2010)	Survey	1193 Facebook English-speaking adult users	Social Capital, Loneliness Facebook Intensity Scale	USA
Kalpidou, Costin, & Morris (2011)	Survey	70 Undergraduate college students	Facebook use, Self-esteem Emotional adjustment	USA
Gonzales & Hancock (2011)	Survey	63 students	Self-esteem, Selective self-presentation	USA
Junco (2012)	Survey	2368 college students	frequency of Facebook use, Facebook activities, Student engagement	USA
Hume & Sullivan Mort (2012)	Mixed Methods (Content Analysis, Interview and online survey)	35 diaries 22 interviews 3657 questionnaire	Frequency of Facebook use Life satisfaction	Australia
Liu & Yu (2013)	Survey	400 college students	Facebook use, online social support, general social support, and psychological well-being	Taiwan

Guo et al. (2014)	Cross cultural	Chinese international students	SNS use for social and informational functions, Social capital, Perceived life satisfaction	Japan
Nabi, Prestin, & So (2013)	Online Survey	423	Facebook use, Social network size Perceived social support, Life satisfaction	USA
Wang, Jackson, Gaskin, & Wang (2014)	Survey	337 Undergraduate Students	Qzone usage, Online self-disclosure Social anxiety, Friendship quality, The Satisfaction with Life Scale	China
Oh, Ozkaya, & Larose (2014)	Survey	339 adults	Number of SNS friends, supportive interactions, affect, perceived social support, sense of community, and life satisfaction	USA
Naeemi, Putra, Tamam, Putra, & Hassan (2014)	Survey	401 adolescents aged between 13-16 years old	Facebook usage, Information seeking, Connectivity, Psychological well-being was measured by six sub-dimensions from Ryff (1996).	Malaysia
Park, Song, & Lee (2014)	Cross-Cultural	189 Korean and 94 Chinese college students	ethnic social networking site (SNS) and Facebook use, acculturative stress and psychological well-being	USA
Reinecke & Trepte (2014)	Two-wave longitudinal	374	Facebook use Life satisfaction	Germany
Brooks (2015)	Survey	209 Undergraduate students	Social media usage, Performance Technostress, Happiness	USA

Adnan & Mavi (2015)	Survey	798 Malaysian students	Facebook use, Facebook Motivations Life Satisfaction	Malaysia
Ahmet & Uysal (2015)	Survey	311 University students	Facebook Addiction, Life Satisfaction, Flourishing, Subjective Happiness and Subjective Vitality	Turkey
Dogan (2016)	Survey	459 voluntary participants from five high schools	SNSs use, Happiness, Life satisfaction, Psychological Well-being	Turkey.
Deters & Lonngqvist (2016)	Cross-sectional	US (N =153) Germany (N = 187)	Social capital, Subjective well-being	Germany
Chang & Hsu (2016)	Survey	305 users of Facebook	Social capital, Subjective well-being	Taiwan
Erfani et al. (2016)	Interviews	25	Online social network sites, Facebook, cancer-affected people, psychological well-being, social support, and social connectedness.	Australia
Choi & Lim (2016)	Survey	419 college students	Social Overload, Facebook Addiction Scale, SNSs friends, Well-being Technology Overload Scale	South Korea
Jung, Pawlowski, & Kim (2017)	Mixed-method	177 Facebook users	Facebook use Psychological Well-being (e.g., self-acceptance, autonomy).	Republic of Korea
Chen & Li (2017)	Two-wave panel	1141 participants	SNSs use, Self-disclosure, Social capital, Psychological Well-Being Scale	Hong Kong
Chukwuere & Chukwuere (2017)	Mixed Method	67 female students	Social media use, Life styles, Social Life	South Africa

Utz & Breuer (2017)	Six waves of a longitudinal study	Dutch Internet users	social network sites, well-being, social support, life satisfaction, stress Since	Netherland
Pang (2018)	Cross cultural	112 Chinese students	WeChat, Social Capital, Life satisfaction, Loneliness	Germany
Park & Baek (2018)	Survey	331 Korean Internet user	Facebook use, Social Comparison Life satisfaction	Republic of Korea
Burke & Kraut (2016)	Longitudinal Opt-in, three-wave panel survey	1,910 adult English-speakers	Perceived Social Support Satisfaction With Life, Depression Loneliness Scale, Positive and Negative Affect Scale, Perceived Stress Scale	USA
Twenge & Campbell (2019)	Survey	2000 adults	Digital media use, Happiness, Psychological wellbeing	USA

FINDINGS

The selected article (n=32) mainly focused on Facebook as the most widely used social networking site-where most of the studies relied on students as the sample. Most of the studies were conducted in developed countries (Table 2).

Table 2: Country-wise presentation of social media use and psychological wellbeing research

Country	USA	Australia	Germany	Turkey	Korea	Malaysia	Netherland
No. of studies	11	03	03	02	03	02	02

There were 16 quantitative studies and 17 studies that involved students. Four studies were longitudinal and four were cross-cultural. Three studies were conducted using mixed methods while two studies were qualitatively performed and based on interviews. Most studies conducted relied on both male and female sample and only two studies were found focused on only women. Most of the selected studies were conducted after 2012.

DISCUSSION

The review was focused on finding the status of social media research and its impact on psychological well-being of users. The systematic review revealed that in developing countries gradually the attention is being shifted towards the growing psychological consequences of social media. However, the research still lags behind as compared to that of developed areas. The developed countries, particularly USA, have given much attention to social media use and its impact on psychological well-being of users, mostly described in negative and positive terms.

The main objective of the study was to see to what extent impacts of social media use and psychological well-being are being discovered in developing countries. The findings, however, affirmed that the research concerning SNSs use and users' psychological well-being is location-limited and specifically focused on developed countries. The countries that are mentioned in the table such as Japan, China, Germany, and Malaysia are all emerging economies which are politically stable. The actual struggling and low-income countries in regions like the Sub-Continent and Africa are quite missing. Only a single study was reported from South Africa. Not even a single study was found from Pakistan, India, or Middle East which fulfilled the selection criteria.

Another limitation of the existing literature is the neglect of special groups of society like minorities, women, and children. Research should expand beyond selected and limited demographical variables and be more focused on users' cultural, educational, and economic circumstances. Mainly studies focused on students and young samples (Pang, 2018; Choi & Lim, 2016; Dogan, 2016; Wang, Jackson, Gaskin, & Wang, 2014); therefore, the results are limited to young population. In addition, the studies followed quantitative design and relied on scales to record responses. The studies, therefore, couldn't present the actualities which can be better understood through interviews as the two studies, Dare (2009) and Chukwuere & Chukwuere (2017) through interview methods highlighted the contextual and cultural factors which influence social media use and psychological well-being. No study mentioned the status of mental health and categorized overall difference between social media use between men and women.

Yet another limitation noted was a restriction to a single construct of psychological well-being (Liu & Yu, 2013). Since the researchers have shown psychological well-being as a multi-dimensional construct, it should be treated and measured accordingly (Liu & Yu, 2013; Ryff & Keyes, 1995). The studies relied on the related dimension of psychological well-being such as life satisfaction and self-esteem to interpret the psychological well-being. Only two studies out of a total of thirty-two used Ryff' Psychological Well-being measurement scale. The remaining studies measured psychological well-being through life satisfaction, an indicator that has been repeated in most cases. That in view, it is advisable to use other indicators, samples, and contexts of psychological well-being (Coleman, Hale, Cotten, & Gibson, 2015) for more reliable results. In addition, most of the studies focused on Facebook and didn't include other SNSs. The impacts are thus limited to Facebook usage and cannot be evaluated for other SNSs.

CONCLUSION

The impact of SNSs use on users' psychological well-being is an emerging topic and researchers' interest is rapidly growing in exploring their relationship. Hence, the presented

systematic review which has examined 32 articles provides an in-depth analysis of the fact that over time technology explosion has brought numerous impacts on the users' psycho-emotional and social well-being.

The study provided an insight into the significance of psychological impacts of SNSs usage. The findings suggest that most of the studies came up with mixed and divergent results. This highlights the importance and relevance of psychological issues as SNSs use is gradually growing across the globe. The data indicated that after 2010 scholarly attention shifted towards SNSs use and the well-being of users, which correlated with the increasing use of SNSs. The mixed findings also highlighted the need to explore this topic with further in-depth analyses in varying circumstances and with varied samples across different cultural settings.

The review found a significant gap in the literature in terms of the paucity of sample and sampling technique, data collection, study design and methods, and theoretical grounds. The striking lapse in terms of comprehensive appraisal is the absence or lack of samples from developing countries. It has rendered the existing research findings inconclusive, especially on account of increased employment of SNSs in the under-developed and the developing world.

To date, limited work is available (specific to our research questions and objectives), and it is recommended to expand SNSs research beyond repeated and in-vogue variables. Most importantly, longitudinal and qualitative studies are scarce which will have increased potential to better explain outcomes in terms of psychological well-being. This would afford more justifications to indicate a relationship between SNSs use and users' psychological well-being.

The reviewed articles presented positive and negative impacts of SNSs on users' psychological well-being; therefore, researchers are recommended to explore the in-depth relationship between SNSs and the psychological well-being of users. Additionally, since the current review is limited to a specific time and variable, it is highly recommended to include more variables to understand and expand the existing literature.

Based on noted limitations in the available literature, the authors recommend including diverse samples in the study rather than only young users and students. The other population segments such as women, children, and elderly people must also be included in samples for more generalized findings. Along with Facebook, other SNSs such as Instagram, Snap Chat, Twitter, etc., are also being used, so comparative studies could highlight which SNS impacts the psychological well-being of users. In addition, qualitative and mixed-method studies are suggested to present in-depth analysis and actualities. The authors highly recommend media researchers and students in countries like Pakistan, India, Sri Lanka, Bangladesh, Middle East, and Africa to conduct studies and present the impacts of social media on psychological well-being of users.

REFERENCES

Adnan, H. M., & Mavi, S. R. (2015). Facebook satisfaction, life satisfaction: Malaysian undergraduate experience. *Malaysian Journal of Communication*, 31(2), 649–671. <https://doi.org/10.17576/JKMJC-2015-3102-37>

- Ahmet, S., & Uysal, R. (2015). Computers in human behavior well-being and problematic Facebook use. *Computers in Human Behavior*, 49, 185–190. <https://doi.org/10.1016/j.chb.2015.03.005>
- Al-Asfour, A., Tlaiss, H. A., Khan, S. A., & Rajasekar, J. (2017). Saudi women's work challenges and barriers to career advancement. *Career Development International*, 22(2), 184–199. <https://doi.org/10.1108/CDI-11-2016-0200>
- Alam, S. S., Hazrul, N. M., Hashim, N., Ahmad, M., Aniza, C., Wel, C., & Omar, A. (2014). Negative and positive impact of internet addiction on young adults: Empirical study in Malaysia. *Intangible Capital*, 10(3), 619–638. <https://doi.org/10.3926/ic.452>
- Antoci, A., Sabatini, F., & Sodini, M. (2012). See you on Facebook ! A framework for analyzing the role of computer-mediated interaction in the evolution of social capital &. *Journal of Socio-Economics*, 41(5), 541–547. <https://doi.org/10.1016/j.socec.2012.04.024>
- Avgerou, C., Hayes, N., & La Rovere, R. L. (2016). Growth in ICT uptake in developing countries: New users, new uses, new challenges. *Journal of Information Technology*, 31(4), 329–333. <https://doi.org/10.1057/s41265-016-0022-6>
- Bashir, A. (2018). The state of mental health care in Pakistan. *The Lancet Psychiatry*, 5(6), 471. [https://doi.org/10.1016/S2215-0366\(18\)30191-3](https://doi.org/10.1016/S2215-0366(18)30191-3)
- Berger, K., Klier, J., Klier, M., & Probst, F. (2014). A review of information systems research on online social networks. *Communications of the Association for Information Systems*, 35, 145–172. <https://doi.org/10.17705/1CAIS.03508>
- Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review*, 41, 27–36. <https://doi.org/10.1016/j.childyouth.2014.03.001>
- Bhalalusesa, E. (1998). Women's Career and professional development: experiences and challenges. *Gender and Education*, 10(1), 21–33. <https://doi.org/10.1080/09540259821078>
- Brooks, S. (2015). Computers in human behavior does personal social media usage affect efficiency and well-being? *Computers in Human Behavior*, 46, 26–37. <https://doi.org/10.1016/j.chb.2014.12.053>
- Burke, M., & Kraut, R. E. (2016). The relationship between Facebook use and well-being depends on communication type and tie strength. *Journal of Computer-Mediated Communication*, 21(June), 265–281. <https://doi.org/10.1111/jcc4.12162>
- Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1909–1912). doi: 10.1145/1753326.1753613
- Chen, H., & Li, X. (2017). The Contribution of mobile social media to social capital and psychological well-being: examining the role of communicative use, friending and self-disclosure. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2017.06.011>
- Chen, R., & Sharma, S. K. (2013). Self-disclosure at social networking sites: An exploration through relational capitals. *Information Systems Frontiers*, 15 (2), 269–278. <https://doi.org/10.1007/s10796-011-9335-8>
- Choi, S. B., & Lim, M. S. (2016). Effects of social and technology overload on psychological well-being in young South Korean adults: The mediatory role of social network service addiction. *Computers in Human Behavior*, 61, 245–254. <https://doi.org/10.1016/j.chb.2016.03.032>

- Chukwuere, J., & Chukwuere, P. C. (2017). The impact of social media on social lifestyle : A case study of university female students. *Gender & Behaviour*, 15(4), 9966–9981.
- Coleman, L. O., Hale, T. M., Cotten, S. R., & Gibson, P. (2015). The impact of information and communication technology (ICT) usage on psychological well-being among urban youth. *Technology and Youth: Growing Up in a Digital World*, 24(9), 267–291. <https://doi.org/10.1108/s1537-466120150000019024>
- Dare, J. S. (2009). Women and friendship : the role of communication technologies in sustaining critical connections. In *Communication, Creativity and Global Citizenship: Refereed Proceedings* (pp. 485–500). Australian and New Zealand Communications Association Annual Conference.
- Dogan, U. (2016). Effects of social network use on happiness, psychological well-being, and life satisfaction of high school students: Case of Facebook and Twitter. *Egitim ve Bilim*, 41(183), 217–231. <https://doi.org/10.15390/EB.2016.4616>
- Dyer, T. (2018). The effects of social media on children. *Dalhousie Journal of Interdisciplinary Management*, 14, 16. <https://doi.org/10.5931/DJIM.V14I0.7855>
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143–1168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Ellison, N. B., Vitak, J., Gray, R., & Lampe, C. (2014). Cultivating social resources on social network sites: Facebook relationship maintenance behaviors and their role in social capital processes. *Journal of Computer-Mediated Communication*, 19(4), 855–870. <https://doi.org/10.1111/jcc4.12078>
- Erfani, S S, Abedin, B., & Blount, Y. (2016). Social support, social belongingness, and psychological well-being: Benefits of online healthcare community membership. *Pacific Asia Conference on Information Systems, PACIS 2016 - Proceedings*. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011031827&partnerID=40&md5=7aa01e60a53f42331b652d8cb9ad3627>
- Erfani, Seyedezahra Shadi, & Abedin, B. (2018). Impacts of the use of social network sites on users’ psychological well-being: a systematic review Seyedezahra. *Journal of the Association for Information Science and Technology*, 69(7), 900–912. <https://doi.org/10.1002/asi>
- Gonzales, A. L., & Hancock, J. T. (2011). Mirror, mirror on my Facebook wall: Effects of exposure to facebook on self-esteem. *Cyberpsychology, Behavior, and Social Networking*, 14(1). <https://doi.org/10.1089/cyber.2009.0411>
- Goodspeed, T., Vazquez, J. M., & Zhang, L. (2010). Differences between developing and developed Countries. *Public Finance Analysis*, 67(2), 171–191.
- Guo, Y., Li, Y., & Ito, N. (2014). Exploring the predicted effect of social networking site use on perceived social capital and psychological well-being of Chinese international students in Japan. *Cyberpsychology, Behavior, and Social Networking*, 17(1), 52–58. <https://doi.org/10.1089/cyber.2012.0537>
- Hampton, K. N., Lee, C., & Her, E. J. (2011). Media & society social capital through participation in local social settings in local social settings. *New Media and Society*, 13(7), 1031–1049. <https://doi.org/10.1177/1461444810390342>

- Heidemann, J., Klier, M., & Probst, F. (2012). Online social networks: A survey of a global phenomenon. *Computer Networks*, *56*(18), 3866–3878. <https://doi.org/10.1016/j.comnet.2012.08.009>
- Hume, M., & Sullivan Mort, G. (2012). Learning: the role of the internet and interactive services in youth social learning, school and wellbeing. *International Journal of Organisational Behaviour*, *17*(3), 61–81.
- Huppert, F. A. (2009). Psychological Well-being: Evidence Regarding its Causes and Consequences. *Applied Psychology: Health and Well-Being*, *1*(2), 137–164. <https://doi.org/10.1111/j.1758-0854.2009.01008.x>
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers and Education*, *58*(1), 162–171. <https://doi.org/10.1016/j.compedu.2011.08.004>
- Jung, Y., Pawlowski, S. D., & Kim, H. (2017). International Journal of Information Management Exploring associations between young adults' Facebook use and psychological well-being: A goal hierarchy approach. *International Journal of Information Management*, *37*(1), 1391–1404. <https://doi.org/10.1016/j.ijinfomgt.2016.10.005>
- Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in social media research: past, present and future. *Information Systems Frontiers*, *20*(3), 531–558. <https://doi.org/10.1007/s10796-017-9810-y>
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox. *American Psychologist*, *53*(9), 1017–1031.
- Krippendorff, K. (2011). Computing Krippendorff's alpha-reliability part of the communication commons. Retrieved from http://repository.upenn.edu/asc_papershttp://repository.upenn.edu/asc_papers/43
- Liu, C.-Y., & Yu, C.-P. (2013). Can Facebook use induce well-being? *Cyberpsychology, Behavior, and Social Networking*, *16*(9), 674–678. <https://doi.org/10.1089/cyber.2012.0301>
- Lwoga, E. T., & Sangeda, R. Z. (2018). ICTs and development in developing countries: A systematic review of reviews. *Electronic Journal of Information Systems in Developing Countries*, *85*(1). <https://doi.org/10.1002/isd2.12060>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Academia and clinic annals of internal medicine preferred reporting items for systematic Reviews and meta-analyses. *Annals of Internal Medicine*, *151*(4), 264–269.
- Musarrat, R., Masood, A., Rashid, S., & Mazahir, S. (2017). Social networking, perceived loneliness and psychosocial well-being in adolescents. *The International Journal of Indian Psychology*, *4*(3).
- Nabi, R. L., Prestin, A., & So, J. (2013). Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being. *Cyberpsychology, Behavior, and Social Networking*, *16*(10), 721–727. <https://doi.org/10.1089/cyber.2012.0521>
- Naeemi, S., Putra, U., Tamam, E., Putra, U., & Hassan, J. (2014). Facebook usage and its association with psychological well-being among Malaysian adolescents. In *The International Conference on Communication and Media 2014*. <https://doi.org/10.1016/j.sbspro.2014.10.261>
- O'Donnell, A., & Sweetman, C. (2018). Introduction: Gender, development and ICTs. *Gender and Development*, *26*(2), 217–229. <https://doi.org/10.1080/13552074.2018.1489952>

- Oh, H. J., Ozkaya, E., & Larose, R. (2014). How does online social networking enhance life satisfaction? the relationships among online supportive interaction, affect, perceived social support, sense of community, and life satisfaction. *Computers in Human Behavior*, 30, 69–78. <https://doi.org/10.1016/j.chb.2013.07.053>
- Pang, H. (2018). Understanding the effects of WeChat on perceived social capital and psychological well-being among Chinese international college students in Germany. *Aslib Journal of Information Management*, 70(3), 288–304. <https://doi.org/10.1108/AJIM-01-2018-0003>
- Park, N., Song, H., & Lee, K. M. (2014). Social networking sites and other media use, acculturation stress, and psychological well-being among East Asian college students in the United States. *Computers in Human Behavior*, 36, 138–146. <https://doi.org/10.1016/j.chb.2014.03.037>
- Park, S. Y., & Baek, Y. M. (2018). Two faces of social comparison on Facebook: The interplay between social comparison orientation, emotions, and psychological well-being. *Computers in Human Behavior*, 79, 83–93. <https://doi.org/10.1016/j.chb.2017.10.028>
- Pentina, I., & Zhang, L. (2017). Effects of social support and personality on emotional disclosure on Facebook and in real life. *Behaviour and Information Technology*, 36(5), 484–492. <https://doi.org/10.1080/0144929X.2016.1258086>
- Pimmer, C., Linxen, S., & Gröhbiel, U. (2012). Facebook as a learning tool? A case study on the appropriation of social network sites from mobile phones in developing countries. *British Journal of Educational Technology*, 43(5), 726–738. <https://doi.org/10.1111/j.1467-8535.2012.01351.x>
- Poushter, J., Bishop, C., & Chwe, H. (2018). Social media use continues to rise in developing countries but plateaus across developed ones. *Pew Research Center* (Vol. June).
- Reinecke, L., & Trepte, S. (2014). Authenticity and well-being on social network sites: A two-wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behavior*, 30, 95–102. <https://doi.org/10.1016/j.chb.2013.07.030>
- Ryan, R. M., & Deci, E. L. (2001). On Happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52(1), 141–166. <https://doi.org/10.1146/annurev.psych.52.1.141>
- Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, 9(1), 13–39. <https://doi.org/10.1007/s10902-006-9019-0>
- Sørensen, L., Porras, J., Hajikhani, A., & Hayar, A. (2014). A user perspective on social networking sites. *OUTLOOK Visions and research directions for the Wireless World* (13). Wireless World Research Forum.
- Tonioni, F., D'Alessandris, L., Lai, C., Martinelli, D., Corvino, S., Vasale, M., & Bria, P. (2012). Internet addiction: Hours spent online, behaviors and psychological symptoms. *General Hospital Psychiatry*, 34(1), 80–87. <https://doi.org/10.1016/j.genhosppsych.2011.09.013>
- Twenge, J. M., & Campbell, W. K. (2019). Media use is linked to lower psychological well-being: evidence from three datasets. *Psychiatric Quarterly*, 90(2), 311–331. <https://doi.org/10.1007/s11126-019-09630-7>

- Utz, S., & Breuer, J. (2017). The relationship between use of social network sites , online social support , and well-being results from a six-wave longitudinal study. *Journal of Media Psychology*, 29(3), 115–125. <https://doi.org/10.1027/1864-1105/a000222>
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a social network site?: Facebook use and college student’s life satisfaction, trust, and participation1. *Journal of Computer-Mediated Communication*, 14(4), 875–901. <https://doi.org/10.1111/j.1083-6101.2009.01474.x>
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents’ well-being and social self-esteem. *CyberPsychology & Behavior*, 9(5), 584–590. <https://doi.org/10.1089/cpb.2006.9.584>
- Wang, J. L., Jackson, L. A., Gaskin, J., & Wang, H. Z. (2014). The effects of social networking site (SNS) use on college students’ friendship and well-being. *Computers in Human Behavior*, 37, 229–236. <https://doi.org/10.1016/j.chb.2014.04.051>
- Wang, Y., Min, Q., & Liu, Z. (2014). A meta-analytic review of social media studies. *PACIS 2014 Proceedings*, 62. Retrieved from <http://aisel.aisnet.org/pacis2014/62>
- Winfield, H. R., Gill, T. K., Taylor, A. W., & Pilkington, R. M. (2012). Psychological well-being and psychological distress: is it necessary to measure both? *Psychology of Well-Being: Theory, Research and Practice*, 2(1), 3. <https://doi.org/10.1186/2211-1522-2-3>
- Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American Behavioral Scientist*, 48(4), 402–415. <https://doi.org/10.1177/0002764204270278>