



Original Article



Quantifying the Influence of Social Media on Desensitization and Empathy among Undergraduate Nursing Students: A Cross-sectional Study in Mardan Khyber Pakhtunkhwa

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ABSTRACT

The widespread use of social media among nursing students has higher concerns about its impact on emotional well-being and vital professional capabilities, such as desensitization and empathy level. These points are critical in nurturing of current patient care quality and sustaining compassionate nursing practice. **Objectives:** To investigate the relationship between social media usage and levels of desensitization and empathy among undergraduate nursing students in Mardan, Khyber Pakhtunkhwa Pakistan. The research pursues to find a shapes of social media consumption that may support to emotional disinterest and reduced empathetic interactions. **Methods:** A quantitative cross-sectional study was conducted in Mardan KPK Pakistan using convenience sampling of 150 nursing students. The duration of this study was 4 months. Data were collected through a modified questionnaire assessing social media usage, empathy, and desensitization. Statistical analyses evaluated the correlations between these variables. **Results:** The findings revealed a significant positive correlation between high social media usage and increased desensitization, coupled with a notable decline in empathy levels. Students exposed to negative or distressing content on social media showed more noticeable reductions in empathetic responses. The results highlight the potential for social media to influence emotional engagement and sensitivity in professional settings. **Conclusions:** The study underscored the need for educational interventions within nursing programs to alleviate the belongings of unnecessary need for social media use. Participating in training on emotional intelligence and responsible social media consumption could improve empathy and reduce desensitization, eventually improving the quality of patient care brought by future nurses.

INTRODUCTION

Social media has revolutionized communication, allowing users to share and interact with content instantly. With 4.2 billion active users globally, it is a vital part of modern life, as outlined in the "Digital 2021: Global Overview Report" [1, 2]. For nursing students, especially in Mardan, Khyber Pakhtunkhwa, social media offers both opportunities and challenges. While it can enhance learning through study groups, information sharing, and research facilitation, excessive use poses risks like disrupted sleep, reduced attention, and increased anxiety, all of which can hinder academic and clinical performance [3, 4]. Empathy is a critical skill for nursing students, integral to patient care. It involves the ability to understand and respond to the

emotions of others, fostering compassionate interactions [5, 6]. While social media can expose students to diverse perspectives that enhance empathy, exposure to negative or violent content can reduce their empathetic responses. This diminished emotional engagement can adversely affect their ability to connect with patients in clinical settings [7]. Desensitization, which involves a decreased emotional response to shocking material due to repeated exposure, is a growing concern among nursing students [8, 9]. Regular exposure to distressing content on social media can lead to emotional numbness, undermining the sensitivity required in nursing practice [10]. The COVID-19 pandemic has exacerbated this issue, as constant



exposure to distressing news has been shown to reduce emotional reactions over time [11, 12]. Understanding the impact of social media on empathy and desensitization among nursing students in Mardan is crucial. This research aims to explore these effects and suggest educational interventions to promote responsible social media use. By fostering emotional intelligence and mitigating desensitization, nursing programs can help ensure that future nurses maintain the empathy essential for high-quality patient care.

METHODS

A quantitative cross-sectional study was conducted to assess the impact of social media on desensitization and empathy among 4th-year nursing students in Mardan, Khyber Pakhtunkhwa. The study was conducted for three months, starting in September, and included participant recruitment, data collection, and analysis. Using convenience sampling, the study involved 150 students from five nursing colleges: MTI College of Nursing, Mardan College of Nursing, Sarhad Institute of Health Sciences, Institute of Health Sciences Mardan, and Elizabeth Rani College of Nursing Sciences. The sample size was calculated using RaoSoft software with a 6% margin of error and a 94% confidence interval. Only 4th-year students were included, due to their sufficient exposure to both social media and clinical settings. First, second, and third-year students were excluded. Participants voluntarily provided informed consent. Data were collected through a self-administered questionnaire adapted from validated tools, with a Cronbach's alpha coefficient of 0.744 for reliability. Questionnaire comprised of demographics: information on age, gender, academic year, healthcare experience, social media use, and geographic location. Social Media Impact: Six Likert-scale questions assessed the influence of social media on desensitization and empathy. Empathy and Desensitization: Two parts: five questions on emotional resilience and empathy, and eight on desensitization. Data were analyzed using SPSS version 26.0. Descriptive statistics, including frequencies, percentages, and ranges, were used to summarize responses. Ethical approval was granted by the institutional review boards of the participating universities. Participants were informed about the study and assured of confidentiality. Informed consent was obtained, and responses were used exclusively for research purposes.

RESULTS

In table 1 out of 150 students, fourth-year nursing students from multiple colleges participated in the study, with the majority 84.7% aged 21-23 years and 64% male. Most participants 64.7% had prior healthcare experience, and TikTok 44.7% was the most preferred social media platform. Additionally, 71.3% used social media multiple

times daily. Analysis revealed no significant differences in empathy or desensitization between male and female participants ($p = 0.65$), suggesting that gender does not significantly impact emotional responses to social media.

Table 1: Demographic Characteristics of Participants

Variables	Frequency (%)
Gender	
Male	96 (64.0%)
Female	54 (36.0%)
Age	
18-20	2 (1.3%)
21-23	127 (84.7%)
24-26	21 (14.0%)
Academic Year	
Fourth Year	150 (100%)
Previous Healthcare Experience	
Yes	97 (64.7%)
No	53 (35.3%)
Geographic Location	
Mardan	150 (100%)
Preferred Platforms	
Facebook	51 (34.0%)
Instagram	21 (14.0%)
Twitter	11 (7.3%)
TikTok	67 (44.7%)
Frequency of Social Media Use	
Several Times a Day	107 (71.3%)
Once a Day	19 (12.7%)
Several Times a Week	18 (12.0%)
Once a Week	6 (4.0%)

In table 2 nearly half of participants 48.7% used social media throughout the day, with 19.3% using it about half the time. Emotional content was frequently encountered by 35.3%, and 33.3% reported feeling desensitized about half the time. Empathy was moderate for 36%, with 38.7% indicating social media influenced real-life emotional responses most of the time (Table 2).

Table 2: Influence of Social Media on Desensitization and Empathy

Question	Frequency (%)
Frequency and Duration of Use	
Most of the time	73 (48.7%)
About half the time	29 (19.3%)
Content Exposure	
Most of the time	58 (38.7%)
About half the time	37 (24.7%)
Emotional Content Perception	
About half the time	53 (35.3%)
Most of the time	42 (28.0%)
Desensitization Levels	
About half the time	50 (33.3%)
Most of the time	45 (30.0%)

Empathy Levels	
About half the time	54 (36.0%)
Most of the time	49 (32.7%)
Influence on Real-Life Emotions	
Most of the time	58 (38.7%)
Some of the time	37 (24.7%)

responses to social media content, with a high proportion of neutral responses 43.3%, indicating potential emotional detachment or desensitization. A negative correlation (-0.45) between desensitization and empathy further suggests that increased desensitization may reduce empathy levels.

In table 3 (Part a) the table showed participants' emotional

Table 3(Part A): Frequency, Percentage, and Range of Emotional Responses

(Part A) Variables	Strongly Disagree Frequency (%)	Disagree Frequency (%)	Neutral Frequency (%)	Agree Frequency (%)	Strongly Agree Frequency (%)	Range
To what extent do you feel desensitized to emotional content on social media?	7 (4.7%)	51 (34.0%)	65 (43.3%)	18 (12.0%)	9 (6.0%)	4
When I see someone being taken advantage of on social media, I feel kind of protective toward him/her.	8 (5.3%)	27 (18.0%)	43 (28.7%)	54 (36.0%)	12 (8.0%)	4
I get a strong urge to help when I see someone upset on social media.	14 (9.3%)	34 (22.7%)	38 (25.3%)	32 (21.3%)	18 (21.3%)	4
I find that I am "in tune" with other people's moods on social media.	12 (8.0%)	47 (31.3%)	49 (32.7%)	30 (20.0%)	12 (8.0%)	4
I can tell when others are sad even when they do not say anything on social media	20 (13.3%)	32 (21.3%)	49 (32.7%)	34 (23.3%)	14 (9.3%)	4

In table 3 (part b) the extended data offers insight into participants' reactions to emotional content on social media, with responses ranging from "Strongly Disagree" to "Strongly Agree." It highlights trends in emotional engagement and detachment, providing a clear view of how participants respond to emotional situations online.

Table 3(Part B): Frequency, Percentage, and Range of Emotional Responses

(Part B) Variables	Strongly Disagree Frequency (%)	Disagree Frequency (%)	Neutral Frequency (%)	Agree Frequency (%)	Strongly Agree Frequency (%)	Range
I enjoy making other people feel better on social media	6 (4.0%)	17 (11.3%)	45 (30.0%)	59 (39.3%)	23 (15.3%)	4
When a friend starts to talk about his/her problems on social media, I try to steer the conversation elsewhere	4 (2.7%)	43 (28.7%)	44 (29.3%)	54 (36.0%)	5 (3.3%)	4
I do not feel sympathy for people who cause their serious illnesses on social media	11 (7.3%)	23 (22.0%)	46 (30.7%)	41 (27.3%)	19 (12.7%)	4
I become irritated when someone cries on social media	4 (2.7%)	31 (20.7%)	40 (26.7%)	53 (35.3%)	22 (14.7%)	4
I am not interested in how other people feel on social media	6 (4.0%)	27 (18.0%)	47 (31.3%)	47 (31.3%)	23 (15.3%)	4
When I see someone treated unfairly on social media, I do not feel very much pity for them	10 (6.7%)	47 (31.3%)	36 (24.0%)	36 (24.0%)	21 (14.0%)	4
I find it silly for people to cry out of happiness on social media	6 (4.0%)	28 (18.7%)	45 (30.0%)	53 (35.3%)	18 (12.0%)	4
It upsets me to see someone being treated disrespectfully on social media	1 (0.7%)	31 (20.7%)	38 (25.3%)	60 (40.0%)	20 (13.3%)	4

T-tests showed no significant differences in empathy or desensitization based on prior healthcare experience ($p = 0.92$). A negative correlation (-0.45) between desensitization and empathy suggests higher desensitization lowers empathy. ANOVA results ($p = 0.015$) indicated significant differences in emotional responses across groups, emphasizing the influence of social media exposure.

DISCUSSION

The influence of social media on emotional and psychological states is critical, particularly in empathy-driven fields like nursing. As social media becomes progressively essential to daily life, mainly in the Middle East, there has been a notable rise in cell phone and internet usage [13]. Research indicates that exposure to media violence can lead to aggression and desensitization, fading natural fear responses [10]. While social media is

likely to foster connections and enhance psychological well-being, it can also subsidize negative outcomes such as cyberbullying and unfavourable social comparisons among youth [14]. Thus, focusing on the quality of interactions over their quantity is essential for maintaining mental health [13]. The existing literature explores mostly northern hemisphere and Asian populations' uses of SoMe in nursing and nursing education [15]. Moreover,

concerning the healthcare profession, over 60% of studies indicate that healthcare professionals may face misconduct related to secrecy and confidentiality breaches as a result of their social media use [16]. Educational interventions that address social media policies can effectually reassure students to alter their privacy settings on platforms like Facebook, TikTok, and Instagram [17]. While these changes do not integrally guarantee enhanced professionalism in online posts, they underline the status of comforting students about the potential consequences of their online actions, especially relative to their future roles in nursing. Also, Gurol (2010) found that 48.4% of Turkish health sciences students exploit the Internet for academic determinations, with further research showing that social media can enhance communication and learning in nursing education [18]. However, nursing students often shape the lines of professional boundaries on social media by posting unprofessional content that threatens patient privacy. This situation highlights the tenacious need for improved education on ethical online behavior [15]. While social media is recognized for its value in secondary cognitive development and nurturing collegiality in nursing education, there is still a lack of formal guidance on how to integrate social media use as a nursing skill. As such, nurse educators should create structured opportunities for professional engagement with social media [19]. WhatsApp is the top social media app in clinical settings due to its cost-effectiveness. A Saudi study found that platforms like Twitter, YouTube, and LinkedIn are widely used by healthcare professionals for networking and professional development [20]. To clarify, the discussion highlights that while social media is widely used for professional and educational purposes in nursing, it also presents challenges related to privacy, professionalism, and emotional impacts, such as empathy and desensitization. The findings suggest that nursing students' engagement with social media may affect their emotional responses, particularly empathy, which is crucial in their field. The discussion emphasizes the need for comprehensive education on ethical online behavior and structured use of social media as a professional tool in nursing education. This approach can help mitigate negative outcomes while enhancing students' emotional and professional development.

CONCLUSIONS

This study explored nursing students' emotional responses to social media, focusing on empathy and desensitization. No significant gender differences were observed, and neutral reactions suggest emotional detachment. Prior healthcare experience had no notable impact. Given the homogeneity of participants in their fourth year, future research should include students from various academic

levels. To help students manage emotional responses, educators should promote emotional intelligence, mindfulness practices, and peer support to mitigate distress and enhance coping strategies. Further investigation with a more diverse sample is needed to deepen these insights.

Authors Contribution

Conceptualization: S,

Methodology: S, MA¹, A, MA², DA

Formal analysis: S, SBA

Writing, review and editing: S, M, SBA, A, MA¹, MA²

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

All the authors declare no conflict of interest.

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