Investigating the Relationship Between the Use of Problematic Social Networks and Emotional Intelligence in a Sample of Lebanese Adults

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ABSTRACT

Objective: To show the impact of problematic social media use (PSMU) on the 4 domains of emotional intelligence (emotional management, emotional awareness, social emotional awareness, and relationship management) among the Lebanese population.

Methods: This cross-sectional study enrolled 466 adults (January–May 2019). The Social Media Disorder Scale and Quick Emotional Intelligence Self-Assessment were used to assess problematic social media use and emotional intelligence, respectively.

Results: Higher PSMU was significantly associated with lower emotional management scores (β = –0.13), but not emotional awareness, social emotional awareness, relationship management, or total emotional intelligence scores. Female sex and older age were associated with higher social emotional awareness (β = 2.63 and β = 0.10, respectively) and relationship management (β = 2.12 and β = 0.13, respectively) scores.

Conclusions: This study showed that higher PSMU was related to lower emotional intelligence. Future prospective studies are needed to gain an understanding of the relationship between PSMU and each component of emotional intelligence, as well as the mediating factors in such associations.

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Emotional intelligence is a term used to describe a person's capacity to identify, understand, and react to his/her own and others' feelings.[1] Emotional intelligence is divided into 4 domains: self-awareness, self-management, social awareness, and relationship management.[2] Self-awareness is the ability to understand how we feel, what made this feeling come alive, and how our emotions can influence others.[3] Self-management is the ability of a person to control his/her feelings and actions to stay focused and reach the desired goal.[1] Social awareness is the capacity of a person to use empathy to sense others' feelings and thoughts and consequently act based on these readings.[2] Relationship management is the social interaction that comes from understanding our own and others' feelings and actions.[1]

Many factors affecting emotional intelligence have been previously described.[1] Currently, a large part of interpersonal interactions and relationships occurs via social media. Emotional intelligence has been described as a factor that enables people to take control of when and how they use social media.[4] People presenting with problematic social media use (PSMU) tend to have problems with emotional behaviors and in decoding facial expressions, as well as difficulty coping with negative emotions.[5] PSMU is described as a maladaptive pattern of social media use in which a person expresses a strong motivation to use social media and devotes endless time to it. This can lead to impairments in social life and everyday activities, psychological health, and well-being.[6] Although PSMU is still not acknowledged as a disease in the latest version of the *DSM-5*, there is empirical evidence suggesting that PSMU is an emerging mental health problem, particularly among adolescents.[7] Research has shown that 71% of teenagers can access more than one social networking site, and 24% are constantly online because of (1) the easy access via smartphone and internet availability and (2) the different activities social media gives access to (ie, mailing, blogging, chatting, dating, learning).[8–12]

PSMU can result from the interaction of many risk factors and can be linked to lower levels of emotional intelligence, which has been described as a predisposing factor.[13] People with low social competencies find themselves with a tendency to use online social interactions,[14] which can lead to a compulsive use of internet communication tools.[15] In addition, PSMU is also being considered as one of the factors that can influence emotional intelligence.[16] Thus, PSMU may

Clinical Points

- Higher problematic social media use was significantly associated with lower emotional management.
- Female sex and older age were associated with higher social emotional awareness and relationship management scores, respectively.
- Future prospective studies are needed to gain a deeper understanding of the relationship between PSMU and each component of emotional intelligence.

be seen as a double-edged sword that can improve emotional intelligence by enhancing creativity and strategic thinking, but also increase aggressive behavior and school dropout rates and have a negative impact on family dynamics.[17]

Women have been shown to have higher empathy levels than men[18] and to be better at recognizing others' emotions by noticing their facial expression and tone.[19] Other findings have demonstrated that emotional intelligence increases with older age[20] and is correlated with less mental health issues[21–25] and burnout[26] and higher self-esteem.[27]

The Middle East is known to have a high level of social media usage despite the limited number of countries with advanced economies. Lebanon has experienced a huge increase in smartphone use, internet accessibility,[28,29] and, consequently, social media use. In 2017, 80% of Lebanese adults had a smartphone with internet access compared to 57% in 2015.[30] Furthermore, Lebanon ranked first among Middle Eastern countries in terms of rate of increased internet use since 2015; 72% of Lebanese adults reported using social media in 2017 compared to only 53% of French adults and 20% of Indian adults.[31] Therefore, it is important to better understand the dangers associated with misuse of this technology, in particular the association between PSMU and emotional intelligence, given that emotional intelligence is the foundation on which every behavior and interaction is constructed. There have been no studies, to our knowledge, conducted in Lebanon for this purpose. The objective of this study was to investigate the relationship between the use of problematic social networks and emotional intelligence in a sample of Lebanese adults.

METHODS

Study Design and Participants

This cross-sectional study was conducted between January and May 2019. A total of 466 residents of the community were randomly selected from Lebanon's districts at a proportionate rate. The districts are divided into subdistricts/Caza (stratum), which in turn are subdivided into villages. We chose 2 villages per Caza from a list compiled by the Central Agency of Statistics in Lebanon. We then randomly distributed the questionnaire to the households while applying a random-sampling procedure to choose which houses would be included. Face-to-face interviews were assigned to participants to complete the questionnaire. All individuals aged ≥ 18 years were allowed to take part in the study. Those who failed to complete the questionnaire and those suffering from mental illness or dementia (as reported by a family member) were excluded from the study. The methodology used in this study is similar to that used previously.[11,32–34] The Psychiatric Hospital of the Cross Ethics and Research Committee approved the study protocol in compliance with the hospital's Regulatory Research Protocol (HPC-004-2019). Written consent was obtained from each participant.

Table 1. Sociodemographic Characteristics of the Sample Population (N = 466)

Variable	Sample Population
Sex, n (%)	
Male	176 (38.2)
Female	285 (61.8)
Education level, n (%)	
Illiterate	8 (1.8)
Primary	17 (3.7)
Complementary	32 (7.0)
Secondary	95 (20.8)
University	304 (66.7)
Monthly income, US $, n (%)	
< 1,000	266 (61.4)
1,000–2,000	122 (28.2)
> 2,000	45 (10.4)
Marital status, n (%)	
Single	309 (68.1)
Married	140 (30.8)
Widowed	3 (0.7)
Divorced	2 (0.4)
Device mostly used on social media, n (%)	
Laptop	22 (5.2)
Cellular phone	394 (92.9)
PC	3 (0.7)
Tablet	5 (1.2)
Smoker, n (%)	
Yes	89 (19.4)
No	370 (80.6)
Age, mean (SD), y	27.29 (11.46)
No. of children, mean (SD)	0.76 (1.55)
Hours spent on social media, mean (SD)	6.22 (4.92)

Minimal Sample Size Calculation

According to the G-power software, and based on an effect size of f2 = 2%, an α error of 5%, a power of 80%, and taking into consideration 10 factors to be entered in the multivariable analysis, the results showed that a minimal number of 395 participants was needed. A total of 466 residents of 580 (80.34%) participated in the study.

Questionnaire

The completed questionnaire was in Arabic, the native language of Lebanon. The questionnaire was divided into 2 parts: the first part evaluated the sociodemographic characteristics of the participants (age, number of children, sex, education level, socioeconomic level, and marital status). The second part consisted of the following measures.

Social Media Disorder Scale

The Social Media Disorder Scale comprises 27 items to measure the degree of addiction to social media.[7] Higher

Table 2. Bivariate Analysis Taking the 4 Domains of Emotional Intelligence as the Dependent Variables[a,b]

Variable	Emotional Awareness	*P*	Emotional Management	*P*	Social Emotional Awareness	*P*	Relationship Management	*P*	Total Emotional Intelligence Score	*P*
Sex										
Male	18.43 ± 6.54	.450	21.25 ± 7.69	.553	21.67 ± 7.94	**.013**	21.52 ± 8.61	**.027**	82.67 ± 26.36	.051
Female	18.92 ± 6.69		21.68 ± 7.29		23.87 ± 8.24		23.26 ± 7.99		87.75 ± 25.21	
Marital status										
Single/widowed/divorced	18.60 ± 6.14	.337	21.34 ± 7.25	.305	22.83 ± 7.84	.355	22.31 ± 7.79	.168	85.05 ± 24.16	.136
Married	19.31 ± 7.72		22.12 ± 7.90		23.67 ± 8.96		23.56 ± 9.26		88.53 ± 29.25	
Monthly income, US $										
Low (< 1,000)	19.21 ± 6.60	.401	21.85 ± 7.35	.479	23.36 ± 8.10	.195	23.00 ± 8.26	.127	87.31 ± 25.32	.225
Intermediate (1,000–2,000)	18.23 ± 6.50		20.90 ± 7.04		22.06 ± 7.70		21.66 ± 7.91		82.86 ± 24.79	
High (> 2,000)	18.61 ± 7.93		21.16 ± 8.59		24.39 ± 9.98		23.84 ± 8.97		88.00 ± 30.95	
Education level										
Primary/complementary	17.60 ± 8.03	.146	20.05 ± 7.94	.168	21.93 ± 9.25	.157	20.75 ± 9.95	.056	80.33 ± 29.62	.116
Secondary	18.34 ± 6.36		21.04 ± 7.09		22.50 ± 7.94		21.69 ± 7.62		83.44 ± 23.93	
University	19.28 ± 6.36		21.93 ± 7.36		23.51 ± 8.04		23.32 ± 8.02		87.99 ± 25.25	
Variable	Correlation Coefficient	*P*	Correlation Coefficient	*P*	Correlation Coefficient	*P*	Correlation Coefficient	*P*	Correlation Coefficient	*P*
Age	0.134	**.004**	0.089	.060	0.126	**.007**	0.177	**<.001**	0.193	**<.001**
No. of children	0.102	**.031**	0.050	.294	0.119	**.012**	0.107	**.024**	0.145	**.002**
Problematic social media use score	−0.061	.200	−0.093	.050	−0.160	**.001**	−0.176	**<.001**	−0.199	**<.001**
Hours spent on social media	−0.085	.100	−0.150	**.004**	−0.155	**.003**	−0.155	**.003**	−0.178	**.001**

[a]Values are presented as mean ± SD unless otherwise specified.
[b]Bolded values indicate significant *P* values.

PSMU is reflected by higher scores on the scale. In this study, the Cronbach α of the Social Media Disorder Scale was 0.847.

Quick Emotional Intelligence Self-Assessment

Emotional alertness, emotional control, social emotional awareness, and relationship management are the 4 domains of the Quick Emotional Intelligence Self-Assessment. Each domain is composed of 10 questions, with the answers measured on a 5-point Likert scale, ranging from 0 (never) to 4 (always). Higher emotional intelligence is reflected by higher scores.[35] In this study, the Cronbach α for the total emotional intelligence score was 0.936 and for the 4 domains was 0.820 for emotional awareness, 0.851 for emotional management, 0.797 for social emotional awareness, and 0.874 for relationship management.

Translation Procedure

Two clinical psychologists (independent from the study) performed the translation from English to Arabic and vice versa. Discrepancies were resolved by consensus between the translators and researchers.

Statistical Analysis

Data analysis was conducted using SPSS software version 25. Cronbach α values were recorded for reliability analysis for all the scales. The normality of distribution of the emotional intelligence subscale scores was confirmed via a calculation of the skewness and kurtosis; values for asymmetry and kurtosis between −2 and +2 are considered acceptable to prove normal univariate distribution.[36] These conditions consolidate the assumptions of normality in samples larger than 300.[37] The Student *t* test was used to compare 2 means, whereas the analysis of variance was used to compare 3 means or more. Pearson correlation test was used for the detection of a linear correlation between continuous variables. Five stepwise linear regressions were conducted, with the emotional intelligence total score and subscale scores used as dependent variables. Confounding factors were eliminated as much as possible by using only important variables in the model with $P < .1$ in the bivariate analysis. $P < .05$ was considered significant.

RESULTS

The sociodemographic characteristics of the participants are summarized in Table 1. The mean ± SD age of the participants was 27.29 ± 11.46 years, with 61.8% female. The mean ± SD PSMU score was 8.15 ± 5.71. The mean ± SD emotional intelligence scale and subscale scores were as follows: total emotional intelligence score: 86.08 ± 25.78, emotional awareness: 18.81 ± 6.65, emotional management: 21.57 ± 7.45, social emotional awareness: 23.08 ± 8.19, and relationship management: 22.69 ± 8.27.

Bivariate Analysis

Older age and a higher number of children were significantly associated with more emotional awareness, social emotional awareness, relationship management, and total emotional intelligence. Higher PSMU was significantly associated with less social emotional awareness, relationship management, and total emotional intelligence. Higher mean social emotional awareness and relationship management scores were significant among females compared with males (23.87 vs 21.67, $P = .013$ and 23.26 vs 21.52, $P = .027$, respectively) (Table 2).

Multivariable Analysis

The results of a first linear regression, taking the emotional awareness score as the dependent variable,

Table 3. Multivariable Analysis[a,b]

Model 1: linear regression taking the emotional awareness score as the dependent variable					
Variable	Unstandardized β	Standardized β	*P*	95% CI	
Age	0.09	0.16	**.001**	0.04	0.15
Problematic social media use	−0.04	−0.03	.512	−0.15	−0.08
Model 2: linear regression taking the emotional management score as the dependent variable					
Variable	Unstandardized β	Standardized β	*P*	95% CI	
Problematic social media use	−0.13	−0.10	**.037**	−0.25	−0.01
Model 3: linear regression taking the social emotional awareness score as the dependent variable					
Variable	Unstandardized β	Standardized β	*P*	95% CI	
Sex (female vs male*)	2.63	0.16	**.001**	1.06	4.20
Age	0.10	0.13	**.007**	0.03	0.16
Problematic social media use	−0.08	−0.06	.251	−0.22	0.06
Model 4: linear regression taking the relationship management score as the dependent variable					
Variable	Unstandardized β	Standardized β	*P*	95% CI	
Problematic social media use	−0.12	−0.08	.098	−0.25	0.02
Sex (female vs male*)	2.12	0.13	**.008**	0.57	3.67
Age	0.13	0.18	**< .001**	0.06	0.20
University education level vs illiterate/primary/complementary*	2.28	0.13	**.005**	0.70	3.87
Model 5: linear regression taking the total emotional intelligence score as the dependent variable					
Variable	Unstandardized β	Standardized β	*P*	95% CI	
Problematic social media use	−0.33	−0.07	.142	−0.77	0.11
Sex (female vs male*)	6.11	0.12	**.016**	1.13	11.08
Age	0.42	0.18	**.012**	0.09	0.75

[a]Variables entered in model 1: age, number of children, and problematic social media use; variables entered in model 2: age and problematic social media use; variables entered in model 3: age, number of children, problematic social media use, and sex; variables entered in model 4: age, number of children, problematic social media use, sex, and education; variables entered in model 5: age, number of children, problematic social media use, and sex.
[b]Bolded values indicate significant *P* values.
*Reference group.

showed that older age (β = 0.09) was significantly associated with more emotional awareness.

The results of a second linear regression, taking the emotional management score as the dependent variable, showed that higher PSMU (β = −0.13) was significantly associated with less emotional management.

The results of a third linear regression, taking the social emotional awareness score as the dependent variable, showed that female sex (β = 2.63) and older age (β = 0.10) were significantly associated with more social emotional awareness.

The results of a fourth linear regression, taking the relationship management score as the dependent variable, showed that female sex (β = 2.12), older age (β = 0.13), and having a university education level compared to complementary level or less (β = 2.28) were significantly associated with higher relationship management scores.

The results of a fifth linear regression, taking the total emotional intelligence score as the dependent variable, showed that female sex (β = 6.11) and older age (β = 0.42) were significantly associated with higher emotional intelligence (Table 3).

DISCUSSION

This study is one of few regarding the relationship between social media use disorder and emotional intelligence. Our study showed that higher PSMU was significantly associated with less emotional management, corroborating previous findings.[38,39] A study[39] conducted with students showed that PSMU was associated with higher levels of empathy toward peers but also with more difficulty in relying on others and lower emotional intelligence levels overall. These findings are probably due to social isolation, avoidance of real-world interactions, reliance on interactions through social media, and mental exhaustion caused by excessive social media use.[39] Many theories have been formulated to explain these findings. Some researchers[34,40] noticed that individuals who spend extra time on social media tend to feel lonely and fail to form appropriate relationships with others (ie, have lower emotional intelligence). Previous findings also suggested that individuals with PSMU had lower emotional intelligence, as they were unable to form real-life relationships unless they were developed through social media, which allowed them to promote themselves and feel popular.[13] It has also been suggested that social media is used as a way to waste time by those who are unable to adequately control their emotions and set their priorities.[16] Unfortunately, there is no sufficient literature investigating the association between the components of emotional intelligence and PSMU, which may be a subject for future studies.

In our study, older age was associated with higher emotional awareness, social emotional awareness, and relationship management, which is in agreement with previous findings.[41] With older age, the rate of positive emotions increased, while the rate of negative emotions decreased.[42] Other research divided adulthood into younger and older adults and found that older adults had higher emotional intelligence than younger adults[43] despite the

occurrence of more challenging and inconvenient events with age (increased responsibilities, health problems).[41] It might be that the older population had more exposure to life events and challenges and more opportunities to learn how to understand their feelings and practice and develop their coping strategies compared with the younger population.[44]

Our study also showed that women had higher social emotional awareness and relationship management than men. Previous results showed that women had higher emotional intelligence levels in general,[45] as well as more empathy[46] and better emotional and interpersonal skills[47] than men. Women have better skills decoding facial expressions and expressing feelings. These findings are probably due to differences in how boys and girls are typically raised, as young boys are taught to abstain from expressing their emotions, and girls are expected to be more sensitive and expressive of their emotions.[48]

Our study showed that having a university degree was associated with better relationship management scores compared to having a low education level. Research demonstrated that higher emotional intelligence levels were strongly related to higher levels of educational success.[49] Results regarding each component of emotional intelligence proved that success is affected by the level of development of each component and that improvement in these components can increase the level of educational success.[49]

Clinical Implications

Our study is important given that social media is spreading worldwide and becoming more available to everyone. PSMU might be considered a new kind of addiction. Acknowledgment of the danger that this addiction has on our emotional state and intelligence is important, as it should motivate parents, schools, family members, and everyone who uses social media to limit the time spent on social networking sites. The results of this study may serve as a first step in Lebanon to educate on the dangers of social media.

Health care professionals (doctors, pharmacists, nurses) play an important role in mental health promotion and well-being by implementing this knowledge in their health promotion activities by (1) recognizing and assessing problematic social media use, (2) understanding the association between PSMU and emotional intelligence, and (3) providing individual support in daily living (use of counseling and cognitive-behavioral techniques to learn communication skills and how to deal with stressful situations by using effective coping strategies, implementation of mindfulness programs such as mindfulness-based stress reduction, and emphasis on healthy lifestyle).

Limitations

This study was unable to show a causative association between the different variables due to the cross-sectional design. A selection bias is possible given that males were underrepresented in our study, as sex is a factor known to affect emotional intelligence, and people with a high level of education were overrepresented. An information bias is also possible since there might be an overestimation or underestimation of some questions. A residual confounding bias is possible as well since not all factors associated with emotional intelligence were taken into consideration in this study.

CONCLUSION

This study showed that higher PSMU was related to lower emotional intelligence. Future prospective studies are needed to gain a deeper understanding of the relationship between PSMU and each component of emotional intelligence, as well as the mediating factors in such associations.

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