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The Role of Online Social Networking on Emotional Functioning in a Sample of Iranian Adolescents and Young Adults

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ABSTRACT

The role of online social messaging applications on perceived stress, anxiety, and depression in relation to the moderating influence of age and gender in an Iranian sample was investigated in this study. A demographic questionnaire, the *Perceived Stress Scale (PSS)*, the *Beck Anxiety Inventory (BAI)*, and the *Beck Depression Inventory II (BDI-II)* were utilized in the present research. The resulting data indicated that social networking nonusers had significantly lower levels of anxiety and depression than users of Viber, WhatsApp, Line, Telegram, Tango, Instagram, Facebook, and other social networking applications. Users of WhatsApp, Viber, and other social networking applications had significantly lower levels of anxiety in comparison to users of the Line, Telegram, Tango, Instagram, and Facebook social networking applications. Young adults and females had a significantly higher anxiety level than adolescents and males in this sample.

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KEYWORDS

Age; anxiety; depression;
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Online social environments apparently enable social and collective interactions among people who use social networking platforms (Köbler, Riedl, Vetter, Leimeister, & Krcmar, 2010). Online Social Networking (OSN) can increase connectedness through the feeling of belonging to a social group using two principles which are called “social presence” and “awareness” in a virtual situation (Köbler et al., 2010; Rettie, 2003). Köbler and colleagues (2010) showed that social networking on Facebook has its strengths in the transmission of positive emotions, in the progress of activities, and the ability to maintain the need for psychological connectedness. For instance, research has shown that emotional disclosure as a psychological mechanism in users helps them to balance their emotional functioning in a social network structure (Lin, Tov, & Qiu, 2014). However, Selfhout, Brantje, Delsing, ter Bogt, and Meeus (2009) speculated that the quality of social networking interactions is a better predictor of emotional performance among users than general social media use. Kalpidou, Costin, and Morris (2011) demonstrated that young adults who reported having a higher number of Facebook friends

experienced lower emotional adaption to real life. Research showed that using social messaging applications (apps) among people, particularly young adults, are new ways of communicating electronically to fit their needs (Duggan, 2015). For example, 97.3% of social network users in the Asia Pacific region have accessed social media sites on their mobile devices (Development Institute of the Russian Federation, 2015).

According to the most recent available official statistics, about 67% of the Iranian young people use the Internet, and from that 19% claim they're using the Internet for online chatting, and 15% use it for social media networks (ISNA, 2014). There is a lot of public concern with regards to the increasing use of online social networking among adolescents and young adults. This engenders many questions relating to the impact of online social networking on younger generations and their emotional states. Currently, there is limited in-depth verification on how the younger generations experience and emotionally react to their online social networking interactions (Widen, Lindström, Brännback, Huvila, & Nyström, 2015). Therefore, the present study has been undertaken to investigate the role of online social messaging apps on perceived stress, anxiety, and depression in relation to the moderating influence of age and gender in an Iranian sample.

Social networking, perceived-stress, anxiety and depression

Mitchell (1980) defined a social network as a particular set of linkages among a distinct set of persons with the supplementary assets, which in its entirety can be used to interpret the social behavior of those who are interacting within specific social groups. A number of studies indicate that access to several virtual communities can influence an individual's emotional state either positively or negatively; and in turn it may act as a catalyst for large flow adoptions of negative emotions such as depression (Tang et al., 2011). A few studies have also attributed the emotional impact of social networking to the use of images and pictures by users on these sites (Yang et al., 2014). Current investigations have also highlighted the possible impact of cultural factors such as cultural values and gender on emotionality in relation to the use of social networking apps in young adults (Bolton et al., 2013). This study, therefore, investigates the role of online social networking on three areas of emotional functioning: perceived stress, anxiety, and depression. Leung (2007) showed that perceived-stress is significantly linked with the use of online social networking and is used for regulating moods, for entertainment, information seeking, and social compensation such as relationship maintenance. Beaudoin and Tao (2007) indicated that participation on virtual social networks can be a positive cyber venue for the reduction of stress. Beaudoin and Tao (2007) have also shown that even patients with chronic physical diseases benefit from using social network apps as it assists them

in confronting illness, coping with treatment, and allows them to seek out support.

Many studies have linked virtual social networking use to anxiety in adults and adolescents (Khodarahimi & Rasti, 2016; O’Keeffe & Clarke-Pearson, 2011; Pierce, 2009). For example, Rosen, Whaling, Rab, Carrier, and Cheever (2013) found that younger generations had higher levels of anxiety relating to messages and social networks in general. In examining the social networking behaviors of 334 young adults, Davila and colleagues (2012) showed that negative interactions on social networking sites correlated with depressive symptomology. Rosen and colleagues indicated that those individuals who spent more time online and those who performed more Facebook image management, displayed higher levels of major depressive symptomology. The convergence of evidence appears to be inconsistent evidence with regards to the e-role of virtual social networking on perceived stress, anxiety, and depression in adolescents and young adults and the possible influence of age and gender, particularly in Iran.

Theoretical frameworks

According to Social Network Theory (SNT), all members of a social network share much information with each other, and membership in a social network provides a milieu for establishment of common beliefs and perceptions including emotional functioning. SNT helps to understand the nature of social relationships in the light of two concepts: nodes and ties. Nodes are the personal actors within the social networks, and ties are the interactions between the actors in a social context (Freeman, 1979; Scott, 2000). Wellman (2001) suggested that digital networks are essentially similar to real social networks because they can link people in the virtual world. Wellman (2001) proposed that digital social institutions should not be considered separately as they may influence people’s everyday lives. Wellman noted that virtual social networks increase people’s emotional performance by increasing their ability to communicate with friends and relatives who live nearby and far away.

Founded on Social Learning Theory (SLT), the social environment is the context in which people observe new behavior and evaluate the implications (i.e., directly or vicariously) of the new behavior (Cantor, 2003). This theory suggests that both internal and external factors are equally as important as the other. This theory helps to understand the mechanisms through which symbolic communication influences human behavior in social media (O’Rorke, 2006). The SLT predicts that long-term effects of social media in users are due to observational learning and to the activation and desensitization of emotional processes (Huesmann, 2007). SLT suggests that intrinsic reinforcement and one’s sense of self efficacy can determine how social networking influences emotional performance in adolescents and young adults.

According to Displacement Behavior Theory (DBT) it is not the social networking use in and of itself that has harmful effects on emotional functioning. It is suggested that the lack of other activities, such as physical activity and face-to-face social interaction are more able to explain the impact of media on emotional dysfunction (Martinsen, 2008; Ono et al., 2011). This theory suggests that inactive behaviors such as social media could be displacing face-to-face interaction and the benefits it offers.

Mood Management Theory (MMT) is a self-explanatory perspective that helps to explain why individuals emotionally seek out dysfunctional or horror/violent media (Zillmann, 1988). This theory suggests that the use of social media is a way of increasing or preserving positive states and/or a way to diminish or avoid negative ones (Oliver, 2003; Oliver, Kim, & Sanders, 2006). In this theory, the utilization of social media is thought to be related to a viewers' own stress, anxieties, deficits, and capabilities (Oliver, 2003; Oliver, Kim, & Sanders, 2006; Zillmann, 1988). This theory may partly explain why numerous studies have found associations between individuals' emotional dysfunction and their preference for social media.

Virtual Community Participation Theory (VCPT) suggests that social media can influence emotional functioning via the use of both psychological and physical tools in a cultural context (Vygotsky, 1978). The physical tool in the virtual world is the computer that helps people in accomplishing specific tasks in terms of gender and age stage. The psychological tools equals the language shared between users and is combined with the physical tools. Hrastinski (2009) suggested that online learner participation (a) is a complex process of taking part and maintaining relations with others, (b) is supported by physical and psychological tools, (c) is not synonymous with talking or writing, and (d) is supported by all kinds of engaging activities. This theory proposes that social learning can emerge even when there is no verbal communication via dialogue or conversation in social networking.

These theories predict that the influences of social networks on emotional performance of individuals differ in terms of gender and age of network members. These theories suggested that roles and expectations differ whether one is a woman or a man in a social network. Furthermore, age differences in social networks may reflect conflicting roles and responsibilities according to the life stage of network members (Antonucci, 2001; Cantor, 2003; Freeman, 1979; Hrastinski, 2009; Martinsen, 2008; Moen, 2001; O'Rorke, 2006; Scott, 2000; Vygotsky, 1978; Wellman, 2001; Zillmann, 1988).

The present study

This study is proposed to investigate the role of online social messaging apps on negative emotional states with regards to cultural gender/age differences. According to the SNT, SLT, DBT, MMT, and VCPT, social media and online

social networking is similar to real social networks in both structure and function. It is suggested by these theories that social messaging apps may contribute to several intrapsychic and social problems in users and, therefore, social messaging apps influence emotional ability to cope with stressors in adolescents and young adults. Since most of the theories and the current literature quoted are dealing with the social networks and very few with the impact of messaging apps on emotional functioning in adolescents and young adults, there is essential to investigate the role online messaging apps on emotional performance. This study speculates that several factors such as privacy, modes of communication, disposability, sociability, visual orientation, exclusivity, and accessibility behind different social messaging apps can mediate their roles on emotional functioning among adolescents and young adult users. Therefore, this study suggests that socialization, modeling, worry, threat, and ambiguity of adolescents and young adults with online relationships on social messaging apps such as WhatsApp, Line, Instagram, Viber, Telegram, Tango, Facebook, and others messaging apps can increase their levels of perceived stress, anxiety, and depression. These social messaging apps help users to access free voice calling and free mobile texting, either over Wi-Fi or the user's Cellular data. WhatsApp offers easy chat, group chats, free calls and end-to-end encryption for user security. Viber presents HD-quality voice calls, video calls, and messages with text, photos, and stickers. Line is a mobile messaging and voice calling app with social networking and gaming features that add a social entertainment aspect to messaging. Telegram is a cloud-based messaging service that promises fast and secure messages, photos, videos, and files of any kind. Instagram is a simple way to capture and share the world's instants with photos and comments. Tango is the messaging *app* with the best video calling. All messages and calls are free. Facebook messenger is a text messaging on mobile phones. Others messaging apps include Skype, Ovoo, Talkray, Beetalk, and so forth. The aforementioned theories predict that a high level of participation on online social media might influence the occurrence of emotional dysfunction in adolescents and young adults. This study predicts that adolescents and young adults may use online social relations for different purposes and the impact of social messaging apps on emotional function depends on their motives and their social environment. Due to religious beliefs and traditional family values toward gender roles, it seems that gender-linked role socializations for females and males are somewhat different in the Iranian culture. This study suggests that participation in online social messaging apps may influence the levels of perceived stress, anxiety, and depression in adolescents and young adults because of their encounters with personal, familial, social, and legal inhibitors which affect access to social apps in this culture. Thus, this study explores the role of online social messaging apps on perceived stress, anxiety, and depression based on the moderating influences of age and gender within a survey design. The present study hypothesizes that in this Iranian sample: (a) online social messaging apps

would have a significant influence on perceived stress, anxiety, and depression in this sample; and (b) age group would have a significant role on perceived stress, anxiety, and depression; and (c) gender would have a significant effect on perceived stress, anxiety, and depression.

Method

Participants

Participants were selected from 450 families from the Eghlid City region by using a systematic random sampling method. Ten participants were dropped for incomplete and vague responses from the analysis in this study. The research sample included 440 adolescents (11–19 years old) and young adults (20–29 years old) in the Eghlid City, in the northern part of the Fars province of Iran. Eghlid town is about a 50,000 population, living in about 1,600 households; and this sample is a representative and a substantive proportion of the overall population. The sample included 211 adolescents ($M = 111$, $F = 100$) and 229 young adults ($M = 120$, $F = 109$). For the purpose of this study, the city was divided into four geographical areas, then two streets in each region were randomly selected, and then two lines in each street were selected at random. Houses were selected at 10 house intervals until 25 participants per line were selected. This procedure was replicated for males and females separately, and none of the adolescent and young adult participants were chosen from the same house. Age mean (and standard deviation) for adolescents and youth groups were 17.66 (1.43) and 24.78 (2.60), respectively. After informed consent was acquired, participants completed a questionnaire containing sections on background information, perceived stress, anxiety, and depression.

Instruments

The demographic questionnaire and three inventories were used for data collection on this study. The three inventories used were: (a) the Perceived Stress Scale (PSS), (b) the Beck Anxiety Inventory (BAI), and (c) the Beck Depression Inventory II (BDI-II).

Perceived stress scale (PSS; Cohen, Kamarck, & Mermelstein, 1983)

PSS is a 14-item scale that measures the discernment of stress. It is a measure of the extent to which situations in one's life are appraised as stressful. Participants point out how often they have found their life unpredictable, unmanageable, and overfull in the last month. Participants are requested to rate the severity of each symptom by using a 5-point scale ranging from 0 (*never*) to 4 (*very often*). This measure has been shown to have strong validity and reliability in different cultures (Andreou et al., 2011; Borjalilu,

Mohammadi, & Mojtahedzadeh, 2015; Cohen et al., 1983; Cohen & Williamson, 1988; Lee, 2012). The PSS internal reliability by using Cronbach's alpha was .91 in this study.

Beck anxiety inventory (BAI; Beck & Steer, 1990)

The BAI is a 21-item self-report measure that assesses overall anxiety. Participants are asked to rate the severity of each symptom by using a 4-point scale ranging from 0 (*not at all bothered*) to 3 (*severely bothered*). The validity and reliability of the BAI is confirmed in both clinical and nonclinical samples (Creamer, Foran, & Bell, 1995; Kabakoff, Segal, Hersen, & Van Hasselt, 1997; Steer, Kumar, Ranieri, & Beck, 1995). The internal reliability of the BAI, using Cronbach's alpha was .90 in an Iranian sample (Khodarahimi & Nikpourian, 2012). The internal reliability of the BAI using Cronbach's alpha was .94 in this study.

Beck depression inventory II (BDI-II; Beck, Steer, & Brown, 1996)

The BDI-II is a 21-item scale that measures various symptoms of depression in clinical and nonclinical populations, particularly in adults and adolescents. This is a 4-point scale with each item ranging from 0 to 3. Cut-off score guidelines for the BDI-II are given with the advice that thresholds be adjusted based on the distinctiveness of the sample, and what the BDI-II is being utilized for. The validity and reliability of the BDI-II is established in both clinical and nonclinical samples (Beck, Steer, & Garbin, 1988; Ghassemzadeh, Mojtabai, Karamghadiri, & Ebrahimkhani, 2005; Wang & Gorenstein, 2013). The BDI-II internal reliability using Cronbach's alpha was .89 in this study.

Results

A Multivariate Analysis of Covariance (MANCOVA) was used to compare differences in perceived stress, anxiety, and depression among adolescents and young adults (males and females) among nonusers and users across different social messaging apps. This analysis included three independent and three dependent variables. To evaluate the main hypothesis in this study a MANCOVA was computed with social messaging apps as the fixed independent variable, and age (i.e., adolescence and young adults) as well as gender (i.e., males and females) being covariate independent variables. This analytical design permits control of the effects of age group and gender for real impact of social messaging apps on negative emotional states (i.e., perceived stress, anxiety, and depression) in this study. Perceived stress, anxiety, and depression were dependent variables in this sample. Participants self-reported how they used any social apps on their cellphone during 2016 in this study. In this sample, 22 individuals did not use social apps, and 51, 202, 65, 23, 14, 14, 16, and 26 individuals used Viber, WhatsApp, Line, Telegram,

Tango, Instagram, Facebook, and other social apps, respectively. Altogether, in this sample about 95% of individuals used chat + social media penetration. Thus, almost the entire sample with the exception of 22 people could be defined as users of messaging apps. Also, users of social messaging apps were included in eight groups. The descriptive statistics of MANOVA (means and standard deviations for perceived stress, anxiety, and depression) for the total sample are shown in Table 1. An overall multivariate showed significant effects for social networking, $Wilks'k = .892$; $F(24, 1225) = 2.04$; $p < .002$, age, $Wilks'k = .950$, $F(3, 422) = 7.41$; $p < .0001$, and gender, $Wilks'k = .949$; $F(3, 422) = 7.57$; $p < .0001$, and their interactions on all independent variables did not show significant differences in this sample.

Tests of between-subjects effects showed that different users of social networking apps have significant differences in anxiety, $F(8,8) = 3.38$, $p = .001$; and depression; $F(8,8) = 4.24$, $p = .0001$. But these groups did not show significant differences in perceived stress, $F(8,8) = .73$, $p = .66$. The post-hoc Duncan test indicated significant differences among users and nonusers of social networking in anxiety and depression but a significant difference was not found among these groups in perceived stress.

Tests of between-subjects effects showed that adolescents and young adults only have a significant difference in anxiety, $F(1,1) = 9.38$, $p = .002$. These groups did not show significant differences in perceived stress, $F(1,1) = .52$, $p = .46$, and depression; $F(1,1) = .90$, $p = .34$. Analysis of a t -test showed, $t(437) = -2.82$, $p < .002$; young adults had a significantly higher anxiety level than adolescents in this sample.

Tests of between-subjects effects showed that males and females only have a significant difference in anxiety, $F(1,1) = 8.45$, $p = .004$. These groups did not show significant differences in perceived stress, $F(1,1) = .14$, $p = .70$, and depression; $F(1,1) = 1.40$, $p = .23$. Analysis of a t -test showed, $t(437) = 2.56$, $p < .01$; females had a significantly higher anxiety level than males in this sample.

Table 1. Mean and standard deviation of dependent variables in users of different social networking.

Groups	Dependent variables					
	Perceived stress		Anxiety		Depression	
None	26.86	9.14	18.27	10.98	21.00	11.64
Viber	25.82	9.13	23.85	15.21	26.91	13.03
Whatsapp	27.48	9.26	22.84	16.14	22.79	12.79
Line	27.67	7.76	31.15	18.03	31.09	11.02
Telegram	27.08	6.94	29.00	17.19	27.17	13.05
Tango	28.14	5.93	30.78	12.38	35.28	14.66
Instagram	28.07	9.39	30.57	15.33	30.42	16.71
Facebook	31.25	6.09	28.31	14.70	28.87	15.01
Others	26.08	8.95	22.92	15.17	27.72	16.60
Total	27.34	8.70	25.00	16.21	25.85	13.47

Table 2. Mean and standard deviation of perceived stress, anxiety, and depression by age group and gender.

Dependent Variables	Age groups				Gender			
	Adolescence		Young adults		Males		Females	
	M	SD	M	SD	M	SD	M	SD
Perceived stress	27.08	8.26	27.63	9.06	27.22	9.02	27.53	8.32
Anxiety	22.69	15.76	27.01	16.27	23.07	15.42	27.00	16.73
Depression	26.48	13.08	25.10	13.89	26.58	13.80	24.85	13.16

Discussion

Results from this study in the first hypothesis showed that nonusers of social networking had significantly lower levels of anxiety and depression than users of Viber, WhatsApp, Line, Telegram, Tango, Instagram, Facebook, and others social networking apps. Users of WhatsApp, Viber, and other social networking apps had a significantly lower level of anxiety in comparison to users of Line, Telegram, Tango, Instagram, and Facebook social messaging apps. Also, users of WhatsApp, Telegram, Viber, Facebook, and other social messaging apps had a significantly lower level of anxiety in comparison to users of Line and Instagram social messaging apps. Finally, users of Line and Instagram social messaging apps had a significantly lower level of anxiety in comparison to users of the Tango social messaging app. These findings are in line with the predictions of the social network, social learning, displacement behavior, mood management, and virtual community participation theories (Cantor, 2003; Freeman, 1979; Hrastinski (2009; Huesmann, 2007; Martinsen, 2008; Oliver, 2003; Oliver, Kim, & Sanders, 2006; Ono et al., 2011; O'Rorke, 2006; Scott, 2000; Vygotsky, 1978; Wellman, 2001; Zillmann, 1988). These results are congruent with many studies which link virtual social networking use to anxiety and depression in young adults and adolescents (Davila et al., 2012; Khodarahimi & Rasti, 2016; Köbler et al., 2010; O'Keeffe & Clarke-Pearson, 2011; Pierce, 2009; Rettie, 2003; Rosen et al., 2013). However, the present results are incongruent with the earlier literature in the field of social networking and perceived stress in adolescents and young adults (Beaudoin & Tao, 2007; Leung, 2007). In line with a few studies due to positive impacts of social networking (Kalpidou et al., 2011; Lin et al., 2014; Selfhout et al., 2009; Widen et al., 2015); this study suggests that teens and young adults may follow social networking for avoidance and relief of stress due to life events and stressors and help them to regulate their emotions in a positive way. Therefore, online relations in social networking may not influence perceived stress in adolescents and young people.

In line with the aforesaid theories and the current literature (Oliver, Kim, & Sanders, 2006; Ono et al., 2011; O'Rorke, 2006; Wellman, 2001; Widen et al., 2015); this study showed online social messaging apps have a significant

influence on anxiety and depression in this sample. Really, different social messaging apps such as WhatsApp, Line, Instagram, Viber, Telegram, Tango, and Facebook have differentiations in their functionality for intimacy, social support, access to knowledge, fun, and leisure. The effects of social messaging apps on anxiety and depression can be explained in light of characteristics of different social apps and psychosocial needs of users. Since each individual may use a specific social messaging app which helps to satisfy her/his needs in a relative secure virtual network. However, nodes and ties inherent on each of social messaging apps can be influenced by the social context of a user. Thereby, users have a hierarchical preferred social messaging apps system which helps them to follow and satisfy their psychosocial needs in a virtual world. This apps system can be influenced by inner needs of users; the specifications of social messaging apps; and the cultural factors such as education, media literacy, familial norms, social acceptability, social identity, group pressures, and so forth. So, the preferred social messaging apps system can help individuals to attain to some positive or negative emotions in a virtual world.

In addition, the total prevalence of stress, anxiety, and depression was 54%, 46%, and 35% in this sample. The overall prevalence of stress, anxiety, and depression in this study is relatively congruent with previous investigations in Iranian young adults and adolescents. For example, the overall prevalence of stress was 61.3% among young adult university students (Koochaki et al., 2011). The prevalence of anxiety disorders range from 6.8% to 85% in Iranian adolescents and youth (Zarafshan, Mohamadi, & Samanian, 2015). The prevalence of depression among adolescents and young adults is about 38.1% in Iran (Ghofranipour, Saffari, Mahmoudi, & Montazeri, 2013). The use of social messaging apps by adolescents and young adults can create different types of new social relations in the virtual world; in turn these relationships may influence their emotional functioning because different types of groups are followed for several reasons such as social desirability, reputation of social networking, group pressures, socialization and identification, intimacy, social support, access to knowledge, and fun and leisure.

The importance of the aforesaid reasons may vary for individuals; and is dependent on their values with regards to family and society contexts.

Results from the second hypothesis in this study showed that adolescents and young adults demonstrate a significant difference in anxiety but they did not have significant differences in perceived stress and depression. Also, young adults had a significantly higher anxiety level than adolescents in this sample. These results are consistent with the literature that indicates the role of cultural factors such as age on emotional outcomes of virtual media in different cultures (Bolton et al., 2013; Tang et al., 2011). In line with the theoretical conceptualizations (Antonucci, 2001; Cantor, 2003; Freeman, 1979; Hrastinski, 2009; Martinsen, 2008; Moen, 2001; O'Rorke, 2006; Scott,

2000; Vygotsky, 1978; Wellman, 2001; Zillmann, 1988), this study suggests that age differences in anxiety may be resulted from different roles and responsibilities of age stages within social networks in this culture. Also, this finding in the field of anxiety is consistent with a recent study which showed a significant positive relationship between anxiety symptoms and age in young adults (Modi, Driscoll, Montag-Leifling, & Acton, 2011). This study suggests that higher levels of anxiety in young adults can be attributed to developmental psychopathology predispositions or psychosocial deprivations such as poverty, lack of work, and lack of social support.

Finally, results from the present study in third hypothesis indicated that males and females only had a significant difference in anxiety levels but they did not show significant differences in perceived stress and depression. Females had a significantly higher anxiety level than males in this sample. In congruence to the theoretical frameworks (Antonucci, 2001; Cantor, 2003; Freeman, 1979; Hrastinski, 2009; Martinsen, 2008; Moen, 2001; O'Rorke, 2006; Scott, 2000; Vygotsky, 1978; Wellman, 2001; Zillmann, 1988); it seems that gender differences in anxiety may be attributed to some engendered roles in social messaging apps in this culture. Again, these results are consistent with the literature that indicates the role of cultural factors such as gender on emotional outcomes of virtual media in different cultures (Bolton et al., 2013; Tang et al., 2011). The result of this study in the field of anxiety is congruent with the literature that highlighted the higher prevalence rates of anxiety among females in general (McLean, Asnaani, Litz, & Hofmann, 2011). This study speculated that the higher level of anxiety in females can be explained in the light developmental and psychosocial factors; and it is independent of using social networking in general.

In conclusion, the current study contributes to the body of media psychology literature. This study justified social networking in relation to age and gender in relation to their influences on anxiety and depression among adolescents and young adults in an Iranian sample. It suggests online social networking as a culture-bounded phenomenon affects the emotional functioning of individuals on the media and cyberpsychology. However, the effects of online networking on emotional functioning may have an interaction with age and gender as two factors in emotional dysfunction in general. These findings can be applied for prevention and treatment of anxiety and emotional disturbances in media and cyberpsychology; and utilized to enhance positive emotions in adolescent and young adult users in online relations. However, a few indicators on the nature of the social media usage in this sample such as the extent of involvement in online network communities, duration and reasons of a messaging platform, the number of contacts, the size and nature of the networks, and how these indicators can influence negative emotions such as anxiety would be published in another paper. However, the present study is limited because it only relied on survey

data and these findings require further investigation using experimental and longitudinal approaches in the future. Thus, further research may wish to examine the impact of online social apps on emotional functioning with regard to the moderating role of virtual private network use among clinical and nonclinical populations in different cultures and countries.

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References

- Andreou, E., Alexopoulos, E. C., Lionis, C., Varvogli, L., Gnardellis, C., Chrousos, G. P., & Darviri, C. (2011). Perceived stress scale: Reliability and validity study in Greece. *International Journal of Environmental Research and Public Health*, 8(8), 3287–3298. doi:10.3390/ijerph8083287
- Antonucci, T. C. (2001). Social relations: An examination of social networks, social support, and sense of control. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 427–453). San Diego, CA: Academic Press.
- Beaudoin, C. E., & Tao, C. C. (2007). Benefiting from social capital in online support groups: An empirical study of cancer patients. *Cyber Psychology & Behavior*, 10(4), 587–590. doi:10.1089/cpb.2007.9986
- Beck, A. T., & Steer, R. A. (1990). *Manual for the beck anxiety inventory*. San Antonio, TX: Psychological Corporation.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the beck depression inventory, second edition (BDI-II)*. San Antonio, TX: Psychological Corporation.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the beck depression inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, 8, 77–100. doi:10.1016/0272-7358(88)90050-5
- Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., ... Solnet, D. (2013). Understanding generation Y and their use of social media: A review and research agenda. *Journal of Service Management*, 4(3), 245–267. doi:10.1108/09564231311326987
- Borjalilu, S., Mohammadi, A., & Mojtahedzadeh, R. (2015). Sources and severity of perceived stress among Iranian medical students. *Iranian Red Crescent Medical Journal*, 17(10), e17767. doi:10.5812/ircmj.17767
- Cantor, J. (2003). Media violence effects and interventions: The roles of communication and emotion. In J. Bryant, D. Roskos-Ewoldsen, & J. Cantor (Eds.), *Communication and emotion: Essays in honor of Dolf Zillman* (pp. 197–220). Mahwah, NJ: Lawrence Erlbaum Associates.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of psychological stress. *Journal of Health and Social Behavior*, 24, 385–396.
- Cohen, S., & Williamson, G. (1988). Psychological stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont symposium on applied social psychology* (pp. 31–67). Newbury Park, CA: Sage.

- Creamer, M., Foran, J., & Bell, R. (1995). The Beck Anxiety Inventory in a nonclinical sample. *Behavior Research and Therapy*, 33, 477–485.
- Davila, J., Hershenberg, R., Feinstein, B. A., Gorman, K., Bhatia, V., & Starr, L. R. (2012). Frequency and quality of social networking among young adults: Associations with depressive symptoms, rumination, and corumination. *Psychology of Popular Media Culture*, 1(2), 72–86. doi:10.1037/a0027512.
- Development Institute of the Russian Federation. (2015). The state of social media and messaging in Asia Pacific: Trends and statistics. Retrieved from https://www.rvc.ru/upload/iblock/493/Social_Media_in_Asia_Pacific_Digest_.pdf
- Duggan, M. (2015). *Mobile messaging and social media*. Retrieved from <http://www.pewinternet.org/files/2015/08/Social-Media-Update-2015-FINAL2.pdf>
- Freeman, L. C. (1979). Centrality in social networks: Conceptual clarification. *Social Networks*, 1, 215–239.
- Ghassemzadeh, H., Mojtabai, R., Karamghadiri, N., & Ebrahimkhani, N. (2005). Psychometric properties of a Persian-language version of the beck depression inventory–Second edition: BDI-II-PERSIAN. *Depression and Anxiety*, 21, 185–192. doi:10.1002/da.20070
- Ghofranipour, F., Saffari, M., Mahmoudi, M., & Montazeri, A. (2013). Demographical and psychological determinants of depression, among a sample of Iranian male adolescents. *International Journal of Preventive Medicine*, 4(10), 1217–1223.
- Hrastinski, S. (2009). A theory of online learning as online participation. *Computers and Education*, 52, 78–82. doi:10.1016/j.compedu.2008.06.009
- Huesmann, L. R. (2007). The impact of electronic media violence: Scientific theory and research. *Journal of Adolescent Health*, 41, S6–S13. doi:10.1016/j.jadohealth.2007.09.005
- ISNA. (2014). *The results of national survey on youth attitudes and values*. Retrieved from <http://www.isna.ir/news/93061710204/%D9%86%D8%AA%D8%A7%DB%8C%D8%AC-%D8%AC%D8%AF%DB%8C%D8%AF%D8%AA%D8%B1%DB%8C%D9%86-%D9%86%D8%B8%D8%B1%D8%B3%D9%86%D8%AC%DB%8C-%D8%A7%D8%B2-%D8%AC%D9%88%D8%A7%D9%86%D8%A7%D9%86-%D8%A7%D8%B9%D9%84%D8%A7%D9%85%D8%B4%D8%AF>
- Kabakoff, R., Segal, D., Hersen, M., & Van Hasselt, V. (1997). Psychometric properties and diagnostic utility of the beck anxiety inventory and state-trait anxiety inventory with older adult psychiatric outpatients. *Journal of Anxiety Disorders*, 11, 33–47. doi:10.1016/s0887-6185(96)00033-3
- Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the well-being of undergraduate college students. *Cyber psychology, Behavior, and Social Networking*, 14(4), 183–189. doi:10.1089/cyber.2010.0061
- Khodarahimi, S., & Nikpourian, M. H. (2012). Work relationships in different workplaces sectors: The roles of emotional problems and work-related factors. *International Journal of Psychology and Behavioral Sciences*, 2(6), 255–262. doi:10.5923/j.ijpbs.20120206.09
- Khodarahimi, S., & Rasti, A. (2016). Problematic Internet use, depression, anxiety and metacognitions in an Iranian sample. *The Medical Press Argentina*, 102(1), 1–8. doi:10.4172/lpma.1000199
- Köbler, F., Riedl, C., Vetter, C., Leimeister, J. M., & Krcmar, H. (2010, August). *Social connect-edness on Facebook—An explorative study on status message usage*. Presented at The Sixteenth Americas Conference on Information Systems, Lima, Peru.
- Koochaki, G. M., Charkazi, A., Hasanzadeh, A., Saedani, M., Qorbani, M., & Marjani, A. (2011). Prevalence of stress among Iranian medical students: A questionnaire survey. *Eastern Mediterranean Health Journal*, 17(7), 593–598.
- Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research*, 6, 121–127. doi:10.1016/j.anr.2012.08.004

- Leung, L. (2007). Stressful life events, motives for Internet use, and social support among digital kids. *CyberPsychology & Behavior*, 10(2), 204–214. doi:[10.1089/cpb.2006.9967](https://doi.org/10.1089/cpb.2006.9967)
- Lin, H., Tov, W., & Qiu, L. (2014). Emotional disclosure on social networking sites: The role of network structure and psychological needs. *Computers in Human Behavior*, 41, 342–350.
- Martinsen, E. W. (2008). Physical activity in the prevention and treatment of anxiety and depression. *Nordic Journal of Psychiatry*, 62, 25–29. doi:[10.1080/08039480802315640](https://doi.org/10.1080/08039480802315640)
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research*, 45(8), 1027–1035. doi:[10.1016/j.jpsychires.2011.03.006](https://doi.org/10.1016/j.jpsychires.2011.03.006)
- Moen, P. (2001). The gendered life course. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging: Social sciences* (pp. 179–196). San Diego, CA: Academic Press.
- Mitchell, J. C. (1980). *Numerical techniques in social anthropology*. Philadelphia, PA: Institute for the Study of Human Issues.
- Modi, A. C., Driscoll, K. A., Montag-Leifling, K., & Acton, J. D. (2011). Screening for symptoms of depression and anxiety in adolescents and young adults with cystic fibrosis. *Pediatric Pulmonology*, 46(2), 153–159. doi:[10.1002/ppul.21334](https://doi.org/10.1002/ppul.21334)
- Oliver, M. B. (2003). Mood management and selective exposure. In J. Bryant, D. Roskos-Ewoldsen, & J. Cantor (Eds.), *Communication and emotion: Essays in honor of Dolf Zillman* (pp. 85–106). Mahwah, NJ: Lawrence Erlbaum Associates.
- Oliver, M. B., Kim, J., & Sanders, M. S. (2006). Personality. In J. Bryant & P. Vorderer (Eds.), *Psychology of entertainment* (pp. 329–342). Mahwah, NJ: Lawrence Erlbaum Associates.
- O’Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents and families. *Pediatrics*, 127, 800–804.
- Ono, E., Nozawa, T., Ogata, T., Motohashi, M., Higo, N., Kobayashi, T., ... Miyake, Y. (2011, December 20–22). *Relationship between social interaction and mental health*. System Integration (SII), 2011 IEEE/SICE International Symposium, Kyoto, Japan.
- O’Rourke, K. (2006). Social learning theory & mass communication. *A Journal of the Arizona Business Education Association*, 25, 72–74.
- Pierce, T. (2009). Social anxiety and technology: Face-to-face communication versus technological communication among teens. *Computers in Human Behavior*, 25, 1367–1372.
- Rettie, R. (2003, October). *Connectedness, awareness and social presence*. Presented at the 6th Annual International Workshop on Presence, Aalborg, Denmark.
- Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating “Idisorders”? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, 29, 1243–1254.
- Scott, J. (2000). *Social network analysis: A handbook* (2nd ed.). London, UK: Sage.
- Selfhout, M. H. W., Brantje, S. J. T., Delsing, M., ter Bogt, T. F. M., & Meeus, W. H. J. (2009). Different types of Internet use, depression, and social anxiety: The role of perceived friendship quality. *Journal of Adolescence*, 32, 819–833.
- Steer, R., Kumar, G., Ranieri, W., & Beck, A. (1995). Use of the beck anxiety inventory with adolescent psychiatric outpatients. *Psychological Reports*, 76, 459–465.
- Tang, J., Zhang, Y., Sun, J., Rao, J., Yu, W., Chen, Y., & Fong, A. C. M. (2011). Quantitative study of individual emotional states in social networks. *IEEE Transactions on Affective Computing*, 10(10), 1–14.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wang, Y. P., & Gorenstein, C. (2013). Psychometric properties of the beck depression inventory-II: A comprehensive review. *Brazilian Journal of Psychiatry*, 35(4), 416–431. doi:[10.1590/1516-4446-2012-1048](https://doi.org/10.1590/1516-4446-2012-1048)
- Wellman, J. (2001). Computer networks as social networks. *Science*, 293(5537), 2031–2034.

- Widen, G., Lindström, J., Brännback, M., Huvila, I., & Nyström, A.-G. (2015, March). *Mixed emotions in active social media use—Fun and convenient or shameful and embarrassing?* Presented at iConference 2015, Newport Beach, CA.
- Yang, Y., Jia, J., Zhang, S., Wu, B., Chen, Q., Li, J., ... Tang, J. (2014, July). *How do your friends on social media disclose your emotions?* Presented at the 28th AAAI conference on artificial intelligence, Québec, Canada.
- Zarafshan, H., Mohamadi, M. R., & Samanian, M. (2015). Prevalence of anxiety disorders among children and adolescents in Iran: A systematic review. *Iranian Journal of Psychiatry*, 10(1), 1–7.
- Zillmann, D. (1988). Mood management: Using entertainment to full advantage. In L. Donohew, H. E. Sypher, & E. T. Higgins (Eds.), *Communication, social cognition, and affect* (pp. 147–172). Hillsdale, NJ: Lawrence Erlbaum Associates.